

Use Documentation Tool

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This module supports **TotalPlant** Solution (TPS) system network.

TPS is the evolution of TDC 3000^X.

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Acronyms

AM	Application Module
APM.....	Advanced Process Manager
DT	Documentation Tool
EB.....	Exception Build
HG	Hiway Gateway
I/O.....	Input/Output
LM.....	Logic Manager
PID.....	Proportional plus Integral plus Derivative
PM	Process Manager
UCN.....	Universal Control Network
US.....	Universal Station

Parameters

PV	Process Variable
SP.....	Setpoint

References

Publication Title	Binder Title	Binder Number
<i>Documentation Tool</i>	Implementation/Startup & Reconfiguration	<i>TPS 3030-1</i>

Introduction

Overview

Introduction

This course module teaches you how to use the TPS Documentation Tool to retrieve information from the on-line and off-line system databases for the purpose of analyzing and documenting the data.

Objective

Given the *Documentation Tool* manual and an established database, do the following:

- Set up the directories and control file required by the Doc Tool.
- Build queries to search the on-line devices for specific conditions, and retrieve a specified set of data.
- Create fields in text files and in files resulting from queries to facilitate use of the Sort, Filter, and Find commands.
- Save to storage media and output to a printer the results of work performed in the Doc Tool.

Test description

For the criterion test, you are asked to perform tasks similar to these:

1. Build a query and output the results to a file.
2. Find a specific data pattern using a single wildcard character.
3. Define several fields in a file of data.
4. Sort displayed data by values in fields.

Documentation Tool

Purpose

The purpose of the Documentation Tool (Doc Tool) is to allow the user to do the following activities:

- Open any text file (such as an Exception Build (.EB) file), create fields in the file data, then manipulate the data using sort and filter commands.
- Create on-line database queries using fill-in-the-blank displays.

Queries

The Doc Tool Query function is a means to ask questions about the database for the purpose of:

- documenting current data;
- obtaining current conditions;
- obtaining current configuration data for a specific reason;
- obtaining a record of specific historical events for analysis or for documentation purposes.

Conditions of the query can be tailored to meet the needs of control room operators, maintenance technicians, and system engineers. Prebuilt queries can be executed on demand by these users if they are given access to the Doc Tool.

How to access Doc Tool

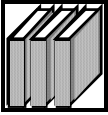
The Documentation tool can be accessed by using a target on the Engineering Main Menu, or by entering “DT” from the Command Processor.

With the Universal Personality loaded in a station and access to the Engineering Main Menu (either with the engineering keyboard or a configurable button on the operator keyboard), the operator can use the Documentation Tool without the key.

Help display

After accessing the Doc Tool, you can display a Help Display describing the Doc Tool procedures. You can page through this display

Documentation Tool, Continued



REFERENCE—The *Documentation Tool* manual provides a good overview of the capabilities and purpose of the Documentation Tool, and it describes all related procedures. As needed during the lab exercise, refer to the manual.

READ—At this time, read the following section for an overview of the Doc Tool.

Binder Number and Title	Document Title	Section Number and Title	Subsection Number and Title
TPS 3030-1 Engineering Operations-1	Documentation Tool	Section 1 Introduction	n/a

Documentation Tool, Continued

Prerequisites

Before using Doc Tool for the first time, the directories and files used by Doc Tool must be in place and accessible from your Universal Station. The following prerequisites must be met before using the Doc Tool:

1. Create a Documentation Control directory (&DOC),
2. Create a Temporary File directory (TFIL),
3. Set the appropriate pathnames to your US (see Figure 1), and
4. Create the Documentation Control file using

Doc Tool target: **DEFINE CNTRL FILES**

Figure 2 shows the locations of the directory pathnames on the volume paths display of a US.

Figure 1 Doc Tool Directories

31 Jul 91 11:17:25 1

MODIFY DEFAULT VOLUME PATH NAMES
Edit All Desired Default Paths and ENTER

HG GDF NET>&HGG>	NETWORK CONFIG NET>&ASY>	CL OVERLAY NET>&OP2>	DEB OVERLAY NET>&OP1>	SDT OVERLAY NET>&OP4>
HM/AM/CM GDF NET>&AMG>	CL SOURCE/OBJ NET>CL>	PICTURE EDITOR NET>&OP2>	LBC OVERLAY NET>&OP1>	FIND NAMES OVLY NET>&OP4>
AREA DB GDF NET>&ARG>	CL PARAM LIST NET>CL>	FFL OVERLAY NET>&OP2>	TRANSLATORS OVL NET>&OP4>	LOAD NODE OVRLY NET>&OP4>
CL CUSTOM GDF NET>CDSG>	USER DEFLT PATH NET>TEST>	BUTTN CFG OVRLY NET>&OP1>	CONFIGURE OVRLY NET>&OP1>	GENERIC OVRLAYS NET>&OVG>
NIM GDF NET>&NMG>	KEY FILE VOLUME NET>&KFO>	SMCC OVERLAY NET>&OP2>	TAC SUPPORT OVL NET>&OP5>	
NIM GDF NET>&NM2>	EXT LOAD MODULE NET>&CUS>	DOC CTL DIR NET>&DOC>	TEMP FILE DIR NET>TFIL>	NCF BACKUP PATH
SET DEVICE PATH TO REM. MEDIA	SET DEVICE PATH TO "NET"	MAIN MENU	UTILITIES MENU	

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The lab exercise for this module does not include the use of Documentation Tool Query actors. The descriptions of actors are provided only as a reference so that you are aware that Documentation Tool Queries can be made available to the operator.

Doc Tool Functions

Retrieving data

Data can be retrieved from Doc Tool by using one of the following commands:

Command	Data retrieved and source	Subcommands
QUERY	Retrieves user-created entity data (not system or "\$" entities) from the on-line databases residing in <ul style="list-style-type: none">• LCN nodes,• Process-connected devices, or• HM journals.	Operations under QUERY: <ul style="list-style-type: none">• Build Creates and executes a query, which can be saved to a file and printed.• Select Pre-built Selects a previously built query.• Delete Pre-built Deletes a previously built query.
OPEN	Retrieves a file from <ul style="list-style-type: none">• History Module or• Removable media.	

Manipulating data

Once retrieved, data can be displayed or manipulated by using commands within Doc Tool to create more customized and useful information.

Command	Description
FIND	Searches the displayed data for the next occurrence of a specified pattern. If fields have been defined, the search can be performed on a specific field.
FILTER	Displays only the lines of data that match a specified condition while the Filter State is ON . The original data is redisplayed once the Filter State is set to OFF . (NOTE: Fields must be defined in order to use the Filter command)
SORT	Arranges records within the displayed data in <i>ascending</i> order while the Sort State is ON . The data can be sorted by record, or by one or more fields. Data is redisplayed in its original order once the Sort State is set to OFF .

Use of Fields

Fields are columns of data displayed in an open file. Fields are identified by a name shown at the top of the column and are bounded by lines. The user can create fields by using the CTL/F10 (DEFINE FIELD) command.

Fields are necessary when using the following Doc Tool commands:

- Find
- Filter
- Sort

Doc Tool Functions, Continued

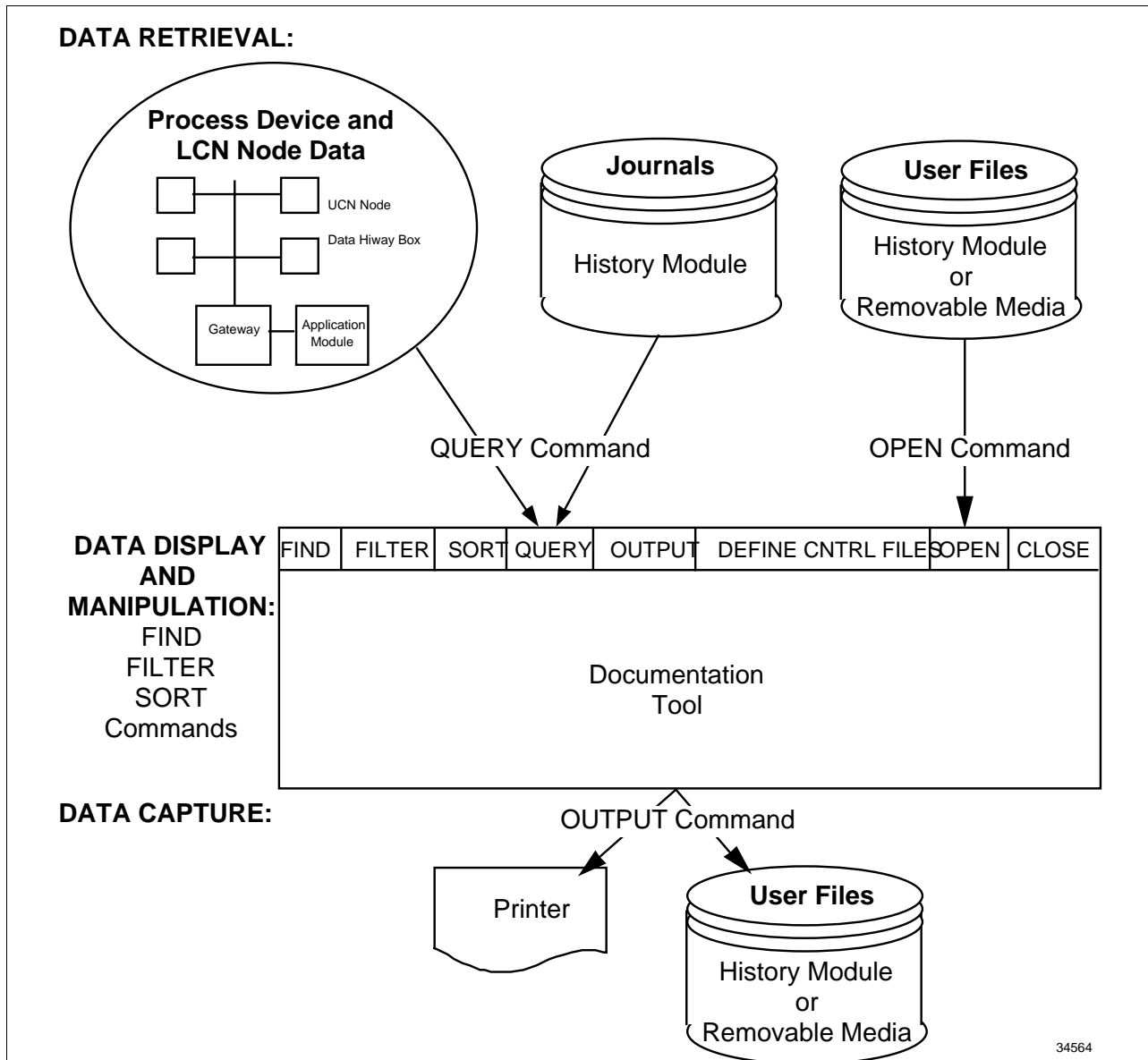
Outputting data

After data has been retrieved and manipulated into a useful format that you would like to save, it can be output to either a printer or a file by using the OUTPUT command.

Functional diagram

Figure 2 illustrates the Doc Tool targets used to retrieve, manipulate, and output data.

Figure 2 Documentation Tool Conceptual Diagram



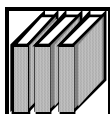
Doc Tool Functions, Continued

Pattern matching

Table 1 describes the special characters you can use in a query or filter Condition.

Table 1 Special Characters to Use in Patterns

Special Character	Description	Result
?	Matches a single character.	Example: A? Matches "A" followed by any character.
*	Matches zero or more characters.	Example: *A Matches "A" preceded by any number of any characters.
[string]	Matches any single character in <string>.	Example: A[BC]D Matches ABD or ACD.
[~string]	Matches any single character except those in <string>.	Example: A[~BC]D Matches AAD, ADD, AED, AFD
-	Defines a range of characters within the set to match.	Example: A[B-D]D Matches ABD, ACD, ADD
#	Matches zero or more occurrences of the previous character.	Example: AB# Matches A, AB, ABB, AB BB
@	Defines the special character that follows @ as the character itself.	Example: @? Matches only the " ?" character.



REFERENCE—The following sections of the Doc Tool manual provide detailed procedures:

Section 1.3—Before Using the Documentation Tool

Section 2.9—Opening Files

Section 2.16—Building, Saving, and Executing a Query

Section 2.17—Query Journal Events

Section 2.14—Outputting Files

Section 2.15—Define, Changing, and Deleting Fields

Section 2.20—Conditions for Query and Filter Commands

Documentation Tool manual

Binder TPS 3030-1

Doc Tool Functions, Continued

Making Doc Tool Queries available to the Operator

In Release 500 and earlier systems, Documentation Tool functions are a selection on the Engineering Main Menu, and therefore are not available when only the Operator personality is loaded or the station's keylock level is OPER or SUPV.

Some of the Documentation Tool functions can be very useful during normal operation; in R510 new actors, collectors, and PSDP parameters provide a way to make them available to the operator.

An engineer can build, test, and save one or more Documentation Tool queries. Then using a set of actors, collectors, and PSDP parameters, the engineer can build custom displays that allow the user to invoke the prebuilt Documentation Tool queries and to display or print the results at operating time. Some (but not all) of these actors can be used with configurable buttons.

The following chart contains a listing of actors that can be used for Documentation Tool Queries.

Actor	Description
QDISPLAY (Invoke Query with Display Output)	Invokes a prebuilt Documentation Tool Query and displays the results on the Universal Station's screen.
QFILE (Invoke Query with File Output)	Like the QDISPLAY actor, it invokes a prebuilt Documentation Tool Query but sends the results to a file that you can specify. As an option, you can also display the results on the Universal Station's screen.
QPRINT (Invoke Query with Printer Output)	Invokes a prebuilt Documentation Tool Query like the above actors, but sends the results to a specified printer.
QCANCEL (Cancel Query)	<p>Some queries can take a while to complete. While a query is active, you cannot use the Engineering functions at the US that invoked the query. This actor cancels a currently active query that was invoked by one of the query actors.</p> <p>You can configure this actor as a Final Target so that it automatically executes when you exit the custom schematic from which a query was invoked.</p>

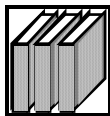
Doc Tool Functions, Continued

Actor	Description
DELFILE (Delete Query Results)	If the results of a previous QFILE actor were stored to a file, you can use the DELFILE actor to delete the file. You might want to do this to avoid confusing previous results with current results.
QCLEAR (Clear Query Status)	Clears out unwanted residual status data in the Query Collectors (the name, status, and invocation date/time).
QRESULTS (Display Query Status)	If you have query results in a file and want to display it on the Universal Station, use this actor to call and display the file. An option can automatically delete the file after it is viewed.

Trigger Pre-defined Doc Tool Queries

On R610 and later, you can trigger pre-defined Doc Tool queries, using the following:

- Command Processor commands (QFILE, QPRINT, QCANCEL) executed from the command line,
- Command Processor commands (QFILE, QPRINT, QCANCEL) executed by scheduled or demanded .EC (command) files, or
- Control Language (CL) program SEND messages
SEND: "\$QFILE <US Node Number> <QueryDescriptor> <Pathname> <option>"
SEND: "\$QPRINT <US Node Number> <QueryDescriptor> \$P<n> <option>"
SEND: "\$QCANCEL <US Node Number> <option>"



REFERENCE—For future reference, the following manuals provide detailed procedures for triggering Doc Tool Queries:

Command Processor Manual - Command Processor commands
Engineering Reference Manual - CL program details

Lab Exercise

Overview

Purpose

This exercise allows you to practice the following Doc Tool tasks:

1. Prepare removable media and set the US pathnames to prepare for a Doc Tool work session.
2. Build a Query and Sort the results.
3. Print and store data displayed in the Doc Tool to removable media.
4. Modify and delete a prebuilt query.
5. Define fields in displayed data.
6. Filter (remove) data from the display.
7. Find a specified pattern of data in the display.
8. Use other display functions, such as scrolling and display forward/backward.

To begin

To begin, obtain “blank” removable media from your course manager.

Go to your assigned Universal Station. Take with you:

- this course module
- *Documentation Tool* manual
- “blank” removable media

Conventions used in this exercise

Many of the tasks in this exercise involve using the keyboard. Note these conventions:

- Keys are identified with brackets, as in [CTL].
- If two keys are shown together, as in [CTL] [F2], you must press and hold down the first key, then press the second key, then release both keys.
- Many keys have identification on both their tops and the front sides. The [CTL] key is used to access the functions on the front sides of the keycaps.
- For all command entries showing space between the parts, a single space separates each part of the command.

NOTE

NOTE—As you work through the following tasks, place a checkmark in the location provided to indicate that you have completed the task.

If you encounter error messages, or have trouble using a Doc Tool command, refer to the *Documentation Tool* manual.

Doc Tool Setup

Prepare Removable Media for Doc Tool Use

In this procedure you will format your removable media and give it the volume name S###, where ### is your assigned student directory number.

You will also create two directories on your removable media for use by the Doc Tool and name the directories &DOC and TFIL.

Perform the following procedure to prepare your removable media.

Step	Action	Result
1	Insert your removable media into a disk drive. Press the [CTL] and [HELP] keys on the engineering keyboard.	Engineering Main Menu appears.
2	Place the keyswitch in the engineer position. Select <div>COMMAND PROCESSOR</div> .	Command Processor Display appears.
3	Type in the following command to format the disk. A single space separates each part of the command. CR \$Fn>S###> -FMT -MF 500 -FD where n = your disk drive number ### = your assigned student directory number After the command is typed in, press [ENTER].	Message: "Create Volume Complete"
4	Type in the following command to create directory &DOC, the documentation control directory. A single space separates each part of the command. CD \$Fn>S###> &DOC	Directory &DOC is created. It holds the queries that are saved.
5	Type in the following command to create directory TFIL, the temporary file directory. A single space separates each part of the command. CD \$Fn>S###> TFIL	Directory TFIL is created. It holds data currently being displayed in the Doc Tool.

Doc Tool Setup, Continued

Set Doc Tool Pathnames

Perform the following procedure to call up the Modify Default Volume Pathnames display and change two pathnames to “point” to your disk drive.

Step	Action	Result
1	To call up the pathname display, type in SP and press [ENTER].	Pathname display appears.
2	Move cursor to entry port for DOC CTL DIR (documentation control directory). Type in this pathname: \$Fn>&DOC> where n = your disk drive number	Specifies pathname for Doc Tool storage of prebuilt queries.
3	Move cursor to entry port for TEMP FILE DIR (temporary file directory) and type in: \$Fn>TFIL> where n = your disk drive number.	Specifies pathname for temporary file storage by various engineering functions.
4	Press [ENTER].	Pathnames are set.

Create Doc Tool Control File

Perform the following procedure to access the Doc Tool and execute the command that creates a query control file (SYSQRY.DC).

Step	Action	Result
1	Select EXIT target.	Command Processor display appears.
2	Type in DT and press [ENTER].	Doc Tool display appears.
3	From the menu at the top of the screen, select DEFINE CNTRL FILES .	Message : "Press enter to execute command"
4	Press [ENTER] key.	Message: "Operation complete" Query control file (SYSQRY.DC) is created in directory &DOC. This is the file that holds the data generated from query saves (prebuilt queries).
5	Press [CTL] + [HELP].	The Command Processor reappears.

Query and Sort

Overview

In this project, you will build a query to search the system database for all alarms in your assigned unit. You will also sort the query results. The Doc Tool will store this query in the query control file on your disk.

To begin, you may want to check the *Documentation Tool* manual.



REFERENCE—For future reference, the following section provides an overview of the Query function.

Binder Number and Title	Document Title	Section Number and Title	Subsection Number and Title
TPS 3030-1 Engineering Operations-1	Documentation Tool	Section 2 Using the Documentation Tool	2.5—Queries, Definition

Lab setup

Perform the following procedure to generate alarms for this exercise.

Step	Action
1	Call up your first assigned Group.
2	Select FIC### from your partition sheet.
3	Put the point in Manual mode and set its output to 0%.
4	Call up the Alarm Summary display for your assigned unit to see if at least three points are in alarm. If fewer than three points are in alarm, cause alarms on other points in your Groups until at least three alarms exist in your assigned unit. For example, set the digital composite points to their off-normal state.
5	Place the keyswitch to the operator position. This will allow you to see which Doc Tool functions are keylocked. Attempting a keylocked function will cause an error message to be displayed.
6	Press [CTL] + [HELP] to call up the Engineering Main Menu.
7	Select DOCUMENTATION TOOL to call up the Doc Tool function.

Build a Query

Perform the following procedure to build a query.

Step	Action and Result																
1	From the menu at the top of the display, select QUERY . <u>Result:</u> Targets appear for the 3 query operations.																
2	Select BUILD . <u>Result:</u> Targets appear for database types.																
3	Notice that there are four types of database searches that can be performed. To search the database on a Unit basis, select Unit . <u>Result:</u> The Unit Query display appears.																
4	Look over the display and notice the kinds of data that can be entered.																
5	Enter data as listed below. Before you begin, note: <ul style="list-style-type: none"> • DO NOT PRESS [ENTER] during this step. • To select an item, use the touchscreen. • If you need to correct any of the data you have entered, use the touchscreen to move the cursor, then retype the data. <table> <tr> <th>Port/Target</th><th>Data</th></tr> <tr> <td>Unit List?</td><td>(your assigned unit)</td></tr> <tr> <td>Entity Names</td><td>(blank)</td></tr> <tr> <td>Conditions</td><td>PTINAL=ON</td></tr> <tr> <td>Parameters Values to Show</td><td>PTDESC , UNIT , DEVHIPR , DEVLOPR , PVHIPR , PVLOPR , MODE</td></tr> <tr> <td>Descriptor</td><td>ALARM POINTS IN UNIT nn (from your partition sheet)</td></tr> <tr> <td>Resource Type</td><td>Select UCN or HIWAY , depending on your assigned network type.</td></tr> <tr> <td>Entity Types</td><td>Select ALL .</td></tr> </table>	Port/Target	Data	Unit List?	(your assigned unit)	Entity Names	(blank)	Conditions	PTINAL=ON	Parameters Values to Show	PTDESC , UNIT , DEVHIPR , DEVLOPR , PVHIPR , PVLOPR , MODE	Descriptor	ALARM POINTS IN UNIT nn (from your partition sheet)	Resource Type	Select UCN or HIWAY , depending on your assigned network type.	Entity Types	Select ALL .
Port/Target	Data																
Unit List?	(your assigned unit)																
Entity Names	(blank)																
Conditions	PTINAL=ON																
Parameters Values to Show	PTDESC , UNIT , DEVHIPR , DEVLOPR , PVHIPR , PVLOPR , MODE																
Descriptor	ALARM POINTS IN UNIT nn (from your partition sheet)																
Resource Type	Select UCN or HIWAY , depending on your assigned network type.																
Entity Types	Select ALL .																
6	To save the query display, select SAVE (in the upper right portion of display) . Messages: "Save in progress," then "Operation complete" <u>WARNING:</u> If you want to save a query display, you must save it before pressing [ENTER] (step 7). Pressing [ENTER] executes the query and deletes its display.																
7	(See warning above.) Press [ENTER]. Messages: "Query in Progress," then "Operation Complete" <u>Result:</u> The query is executed and the results appear on the screen.																

Query and Sort, Continued

Check query results

Notice on your screen that all the points in alarm in your assigned unit are listed in the query results.

The parameters you specified in the “parameters to show” entry are included in the query results.

Blue lines separate the fields of parameter data for the points. The parameter names are the *field names*. For example, PTDESC is a field name in this display.

Press [CTL] [R] to view the rightmost fields.

Press [CTL] [L] to view the leftmost fields.

!!! indicates that the parameter does not exist on the point.

Sort query results

Perform the following procedure to sort the points by their description and unit.

Step	Action and Result
1	From the menu at the top of the screen, select SORT . <u>Result:</u> Targets appear.
2	To turn on the sort function, select On . <u>Result:</u> An entry box appears.
3	When prompted to list the field names, type in the following: DEVHIPR,DEVLOPR,PVLOPR,PVHIPR,ENTITY Press [ENTER]. Message: "Operation Complete" <u>Result:</u> Data is sorted first by deviation high priority, deviation low priority, and then by entity.

Print and Store Data

Print data

Perform the following procedure to print your Doc Tool data.

Step	Action	Result
1	Select Output .	Targets appear.
2	Select To a Printer .	An entry box appears.
3	Type in the printer identification: \$Pn where n = your station's printer number. Press [ENTER].	Messages: "Request in Progress," then "Operation Complete"

Store data

Data in the Doc Tool can be stored to removable media or to the History Module. Perform the following procedure to store the sorted data to your disk.

Step	Action	Result
1	Select Output .	Targets appear.
2	Select To a File .	An entry box appears.
3	Store the data to a file named SORT.XX by typing in this pathname: \$Fn>S###>SORT.XX where n = your disk drive number.	
4	There are three file output options available. Select Overwrite With Field Definitions Press [ENTER]. (For descriptions of the save options, refer to the section "Output Command Pathname and Save Options" in the <i>Documentation Tool</i> manual.)	Messages: "Request in Progress," then "Operation Complete" Data is saved with fields defined in the text file. Next time you open the file in the Doc Tool, the fields will be displayed again.

Modify and Delete a Prebuilt Query

Display prebuilt query

You built a query earlier. Your query is listed by name in a query menu stored on your disk. From the query menu, you may select a query and execute it. To call up this menu, perform the following procedure.

You do not have to cancel the current display. The Doc Tool stacks displays until it runs out of memory. At this time, the Doc Tool display stack has one display in the stack—the display currently on the screen.

Leave the current display on the screen and perform the following procedure.

Step	Action	Result
1	Select QUERY .	Targets appear.
2	Select Select Pre-built .	The list of prebuilt queries is displayed. This is the query stored on your disk. The disk is the media you identified in the US's pathname for the documentation control file
3	Select your query.	The query display appears.

Modify prebuilt query

At this point you could execute or modify the query. If you modify the query, you can overwrite the previous one, or save the modified query as a different name.

Perform the following procedure to modify your query and save it as a different name.

Step	Action	Result
1	To modify the query, enter this pattern in the entry port for Entity Names: FIC* Type in a different descriptor: FLows WARNING: Do NOT press [ENTER] yet!	Query is given a different descriptor and is modified to search for FIC points only.
2	Select SAVE .	Message: "Operation Complete" Modified query is saved under new name.
3	Press [ENTER].	Query is executed and results are displayed.

Modify and Delete a Prebuilt Query, Continued

Delete prebuilt query

Perform the following procedure to delete the FLOWS query you just saved.

Step	Action	Result
1	Select Query .	Targets appear.
2	Select Delete Pre-built .	Query menu appears.
3	Position the cursor on the FLOWS query. Press the [CTL] [F2] keys.	The query is deleted from display.
4	Select Query again, then Select SAVE .	Messages: "Save edits in progress," then "Operation complete" The modified query menu is saved.

Verify deletion

Select the **Select Pre-built** target to re-display the menu of prebuilt queries. Verify that the FLOWS query was deleted from the list.

Define Fields

Open a file

As you saw earlier in this exercise, the query function *automatically* creates fields for each parameter shown in the query results. The fields are indicated by blue lines. You may delete, modify, or add to these fields.

In addition to defining fields in query displays, you may also define fields in any text file brought into the Doc Tool. For example, you may create fields in an exception build (EB) file.

Perform the following procedure to open an EB file in the Doc Tool.

Step	Action	Result
1	Press [ESC] to escape from the Doc Tool.	
2	Use the Command Processor to copy an EB file into your student directory: CP NET>P300>DOCTOOL.EB NET>S###>=	
3	When the copy is complete, press [CTRL] + [HELP] to return to the Doc Tool.	
4	To display the EB file, select OPEN .	An entry box appears.
5	Type in the pathname of an EB file in your student directory on the History Module: NET>S###>DOCTOOL.EB where ### = your assigned student partition number Press [ENTER].	The EB file you created earlier is displayed.

Create a Field

In this exercise, you will create three fields in your EB file:

- a field for parameter names,
- a field for “don’t care” characters, and
- a field for the parameter’s value/state.

Figures 3, 4, and 5 show where you will position the cursor to define the fields. Figure 6 shows the fields after they have been defined; vertical lines separate the fields and field titles appear at the top of the display.

Perform the following procedure to define the fields.

Define Fields, Continued

Step	Action	Result
1	To define the first field, move the cursor to the position shown in Figure 3, then press [CTL] [F10].	An entry box appears.
2	Type in the field name "PARAMETER." Select the String field type and press [ENTER].	The field location is defined. A blue line marks the end of field and the field name appears at the top of the display.

```

25 Jun 96 11:36:17 1
FIND FILTER SORT QUERY OUTPUT DEFINE CNTRL FILES OPEN CLOSE
Field Name parameter
Field Type String Date-time Number
Delete field
UNIT = 01
NTWKNUM = 03
NODENUM = 09
SLOTNUM = 201
PV = OFF
<IDF $F8>P841>HPM841.DB, ENTITY FPV22841( )
}
&T ANOUTNIM
&N FPV22841
NODETYP = HPM
PNTFORM = COMPNNT
UNIT = 01
NTWKNUM = 03
NODENUM = 09
MODNUM = 08
SLOTNUM = 2
PNTMODTY = A0
OPTDIR = DIRECT
OPCHAR = OFF
CTL CTL CTL CTL CTL CTL F2 F4 F5 F8 F9 F10
U D R L T B DEL FFWD FBACK PATH ERRORS FIELD

```

40173

Figure 3 End of Field Cursor Position for First Field

Position cursor here to define end of first field

```

25 Jun 96 11:33:51 1
FIND FILTER SORT QUERY OUTPUT DEFINE CNTRL FILES OPEN CLOSE
< Modified for Development System 28/Apr/96 (OSH) Unit A1 to 01, UCN 1 to 3 }
<IDF NET>P841>HPM841.DB, ENTITY ABRUN841( )
}
&T FLAGNIM
&N ABRUN841
NODETYP = HPM
PNTFORM = COMPNNT
UNIT = 01
NTWKNUM = 03
NODENUM = 09
SLOTNUM = 201
PV = OFF
<IDF $F8>P841>HPM841.DB, ENTITY FPV22841( )
}
&T ANOUTNIM
&N FPV22841
NODETYP = HPM
PNTFORM = COMPNNT
UNIT = 01
NTWKNUM = 03
NODENUM = 09
MODNUM = 08
SLOTNUM = 2
PNTMODTY = A0
OPTDIR = DIRECT
OPCHAR = OFF
CTL CTL CTL CTL CTL CTL F2 F4 F5 F8 F9 F10
U D R L T B DEL FFWD FBACK PATH ERRORS FIELD

```

40172

Define Fields, Continued

Step	Action	Result
3	To define the second field, move the cursor to the position shown in Figure 4, then press [CTL] [F10].	An entry box appears.
4	Type in the field name "X". Select the String field type and press [ENTER].	The field location is defined. A blue line marks the end of field and the field name appears at the top of the display.

25 Jun 96 11:36:17 1

FIND FILTER SORT QUERY OUTPUT DEFINE CNTRL FILES OPEN CLOSE

Field Name parameter

Field Type String Date-time Number

Delete field

UNIT = 01
NTWKNUM = 03
NODENUM = 09
SLOTNUM = 201
PV = OFF
{IDF \$F8>P841>HPM841.DB, ENTITY FPU22841()
&T ANOUTNIM
&N FPU22841
NODETYP = HPM
PNTFORM = COMPONNT
UNIT = 01
NTWKNUM = 03
NODENUM = 09
MODNUM = 08
SLOTNUM = 2
PNTMODTY = A0
OPTDIR = DIRECT
OPCHAR = OFF

CTL CTL CTL CTL CTL CTL F2 F4 F5 F8 F9 F10
U D R L T B DEL FFWD FBACK PATH ERRORS FIELD

40173

Figure 4 End of Field Cursor Position for Second Field

Position cursor here to define end of the second field.

25 Jun 96 11:33:51 1

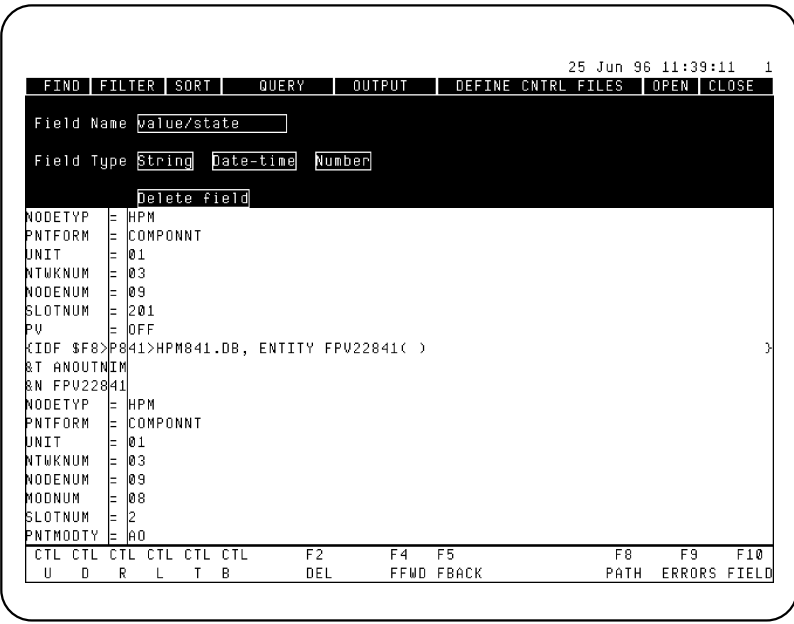
FIND FILTER SORT QUERY OUTPUT DEFINE CNTRL FILES OPEN CLOSE

{ Modified for Development System 28/Apr/96 (OSH) Unit A1 to 01, UCN 1 to 3 }
{IDF NET>P841>HPM841.DB, ENTITY ABRUN841()
&T FLAGNIM
&N ABRUN841
NODETYP = HPM
PNTFORM COMPONENT
UNIT = 01
NTWKNUM = 03
NODENUM = 09
SLOTNUM = 201
PV = OFF
{IDF \$F8>P841>HPM841.DB, ENTITY FPU22841()
&T ANOUTNIM
&N FPU22841
NODETYP = HPM
PNTFORM = COMPONNT
UNIT = 01
NTWKNUM = 03
NODENUM = 09
MODNUM = 08
SLOTNUM = 2
PNTMODTY = A0
OPTDIR = DIRECT
OPCHAR = OFF

CTL CTL CTL CTL CTL CTL F2 F4 F5 F8 F9 F10
U D R L T B DEL FFWD FBACK PATH ERRORS FIELD

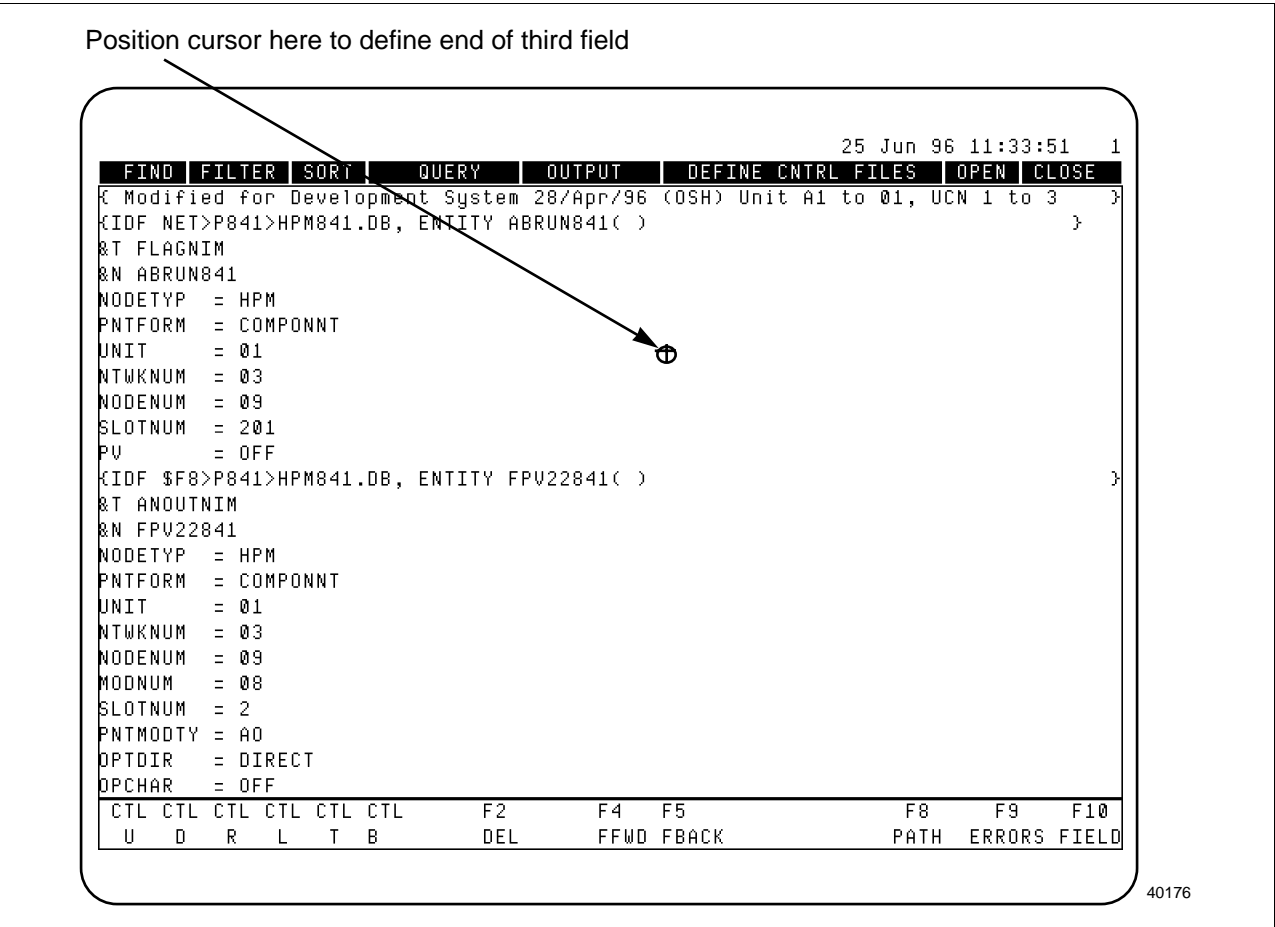
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Define Fields, Continued

Step	Action	Result
5	To define the third field, move the cursor to the position shown in Figure 5, then press [CTL] [F10].	An entry box appears.
6	Type in the field name "VALUE/STATE". Select the String field type and press [ENTER].	The field location is defined. A blue line marks the end of field and the field name appears at the top of the display.
 <p>The screenshot shows a terminal window titled 'DEFINE CNTRL FILES'. At the top right, it displays '25 Jun 96 11:39:11 1'. The menu bar includes FIND, FILTER, SORT, QUERY, OUTPUT, DEFINE CNTRL FILES, OPEN, and CLOSE. The 'Field Name' is 'value/state' and the 'Field Type' is 'String'. Below this, there are options for 'Delete field', 'NODETYP', 'PNTFORM', 'UNIT', 'NTWKNUM', 'NODENUM', 'SLOTNUM', 'PV', and 'PNTMODTY'. A blue line is visible at the bottom of the screen. The bottom status bar shows various function keys and their corresponding actions.</p>		
7	Your display should look like Figure 6, with three fields defined	

Define Fields, Continued

Figure 5 End of Field Cursor Position for Third Field



Define Fields, Continued

Figure 6 EB File With Three Fields Defined

The screenshot displays the EB File interface with three defined fields. The interface includes a menu bar at the top with options: FIND, FILTER, SORT, QUERY, OUTPUT, DEFINE CNTRL FILES, OPEN, and CLOSE. The main display area shows the following text:

```
25 Jun 11:40:31 1
PARAMETERX VALUE/STATE
K Modified for Development System 28/Apr/96 (OSH) Unit A1 to 01, UCN 1 to 3 }
KIDF NET>P841>HPM841.DB, ENTITY ABRUN841( ) }
&T FLAGNIM
&N ABRUN841
NODETYP = HPM
PNTFORM = COMPNNT
UNIT = 01
NTWKNUM = 03
NODENUM = 09
SLOTNUM = 201
PV = OFF
KIDF BF8>P841>HPM841.DB, ENTITY FPV22841( ) }
&T ANOUTNIM
&N FPV22841
NODETYP = HPM
PNTFORM = COMPNNT
UNIT = 01
NTWKNUM = 03
NODENUM = 09
MODNUM = 08
SLOTNUM = 2
```

Callouts and annotations include:

- Field names and lines appear after the Define Fields procedure is performed.
- Last position of PARAMETER field.
- Last position of X field.
- Last position of VALUE/STATE field.
- Field Name is PARAMETER (pointing to the first column header).
- Field Name is X (pointing to the second column header).
- Field Name is VALUE/STATE (pointing to the third column header).

The bottom of the screen shows function key assignments: CTL, CTL, CTL, CTL, CTL, CTL, F2, F4, F5, F8, F9, F10, with corresponding labels: U, D, R, L, T, B, DEL, FFWD, FBACK, PATH, ERRORS, FIELD.

40178

Define Fields Continued

Delete or Modify a Field

To delete a field, the cursor should be positioned to the left side of the blue line. This is the last character position in the field.

Perform the following procedure to delete a field.

Step	Action	Result
1	Add another field on the right side of the EB file. Name the field anything you want.	The EB file should now have four fields.
2	To delete the field, make sure the cursor is over the last character position in the field you just defined. Press [CTL] [F10].	The field is selected, and an entry box appears with the field name and type.
3	At this time you could modify the field name and type, but we want to delete the field. Select Delete Field and press [ENTER].	The field and its blue boundary line are deleted.
4	Let's save this file, including its field definitions. Use the Output command and select To a File to save the data to your disk. Type in the following pathname: \$Fn>S###>FIELDS.XX Select Overwrite With Field Definitions . Press [ENTER].	File is stored to your disk.

Filter (Remove) Data

Filter data - Define filter condition

You can use the **FILTER** target at the top of the screen to remove data from the display that does not meet a specified condition.

You should still have the EB file displayed.

Perform the following procedure to remove all records in the file that do not contain PVHIPR or DEVHIPR in the PARAMETER field and LOW in the VALUE/STATE field.

Step	Action and Result
1	Select FILTER . <u>Result:</u> Targets appear.
2	Select On . <u>Result:</u> An entry box appears. The filter function is turned on.
3	Type in the following condition: PARAMETER=DEVHIPR OR PARAMETER = PVHIPR AND VALUE/STATE = LOW Press [ENTER]. Message: "Filtering data" <u>Result:</u> The data not meeting the condition is filtered out of the display.
4	Use the OUTPUT command to save this display to your disk. Use the following pathname: \$Fn>S###>FILTER.XX Do not save the field definitions. <u>Result:</u> File is stored to your disk.
5	Turn the filter off: Select FILTER . Select Off . Press [ENTER]. <u>Result:</u> The original data returns.

Find a Data Pattern

Find Data - Define Pattern

You can use the Find function to locate the next occurrence of a pattern within a display. If fields are defined in the display, the search may be limited to specified fields of data.

Perform the following procedure to search for the pattern "LOW" in the VALUE/STATE field of your current display.

Step	Action	Result
1	Select FIND .	An entry box appears.
2	Type in the following: Pattern: LOW Field: VALUE/STATE	Pattern and field are defined.
3	Select Forward as the search direction. Press [ENTER].	The cursor goes to first occurrence of the pattern.
4	Press [CTL] [F4] to repeat the search in the forward direction. Press [CTL] [F5] to find in the backward direction.	Cursor goes to next occurrence, if any. Cursor goes to previous occurrence, if any.

Use Other Display Functions

Paging

There are several functions used to navigate through the data displayed in the Doc Tool.

Press the [PAGE FWD] and [PAGE BACK] keys to access different pages of the current display. Do it now.

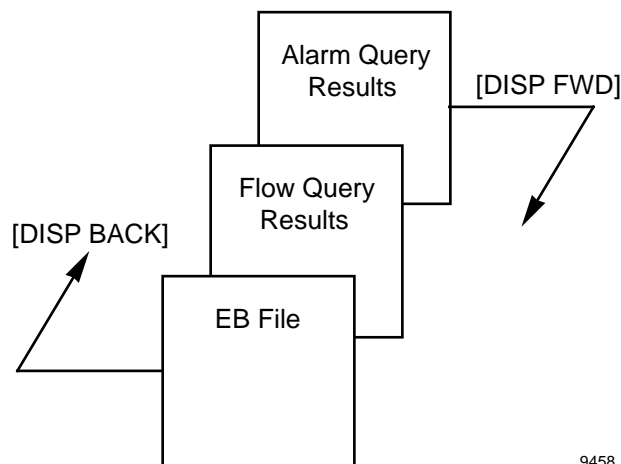
Scrolling

Notice at the bottom left side of the Doc Tool screen, there are functions for

- scrolling the screen up ([CTL] + [U]) and down ([CTL] + [D]),
- scrolling the screen left ([CTL] + [L]) and right ([CTL] + [R]), and
- going to the top/beginning ([CTL] + [T]), or
- going to the bottom/end ([CTL] + [B]) of the file.

Display Forward/Back

Press the [CTL] [DISP BACK] keys to access the various displays in the "display stack." The following diagram illustrates your current display stack:



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Navigation

Perform the following steps to practice navigating Doc Tool screens.

Step	Action
1	Practice using the functions at the bottom left side of the Doc Tool screen to access the query results display: <ul style="list-style-type: none">- Scroll the screen up and down- Scroll the screen left and right- Access the top and bottom of the display
2	Practice using the [CTL] [PAGE BACK] / [CTL] [PAGE FWD] or the [DISP BACK] / [DISP FWD] keys to move through the display stack.

Use Other Display Functions, Continued

Display pathname

The F8 function at the bottom of the screen labeled “PATH” is used to determine the pathname of the data currently on the screen.

Perform the following procedure to determine the pathname.

Step	Action	Result
1	With the EB file currently on the screen, position the cursor over any data in the display and press [CTL] [F8].	The pathname of the data is displayed (NET>S###>DOCTOOL.EB)
2	Press the [CTL] + [PAGE BACK] keys.	This pages through the displays you have created while using the Doc Tool. The displays remain in the "display stack" until you cancel them.
3	Position the cursor over any data in one of the query results displays and press [CTL] [F8].	The pathname of the data is displayed: \$Fn>TFIL>(random number). Because the query results are displayed in a temporary file in the Doc Tool, it was assigned a random number as a filename.
NOTE: When you cancel a display ([CLOSE] target or [CANCEL] key), the file is deleted from the temporary file directory specified in the US pathname display.		

Use Other Display Functions, Continued

Display Doc Tool Errors

There are several ways errors are displayed in the Doc Tool. These are described in the *Documentation Tool* manual.

The most common error for first-time users of the Doc Tool is not creating directories for the Doc Tool, and not specifying the correct pathnames of these directories in the US pathname display.

Perform the following procedure in order to see the error resulting from this oversight.

Step	Action	Result
1	Press [ESC].	Command Processor display appears.
2	To call up the US pathname display, type in SP and press [ENTER].	The Pathname Display appears.
3	Change the pathname of the Documentation Control Directory to a directory that doesn't exist, such as \$Fn>XXXX> . Press [ENTER].	Doc Tool will attempt to locate prebuilt queries in directory XXXX.
4	Select EXIT .	Returns to Command Processor display.
5	Press [CTRL] [HELP] to return to the Doc Tool. Attempt to call up your prebuilt query.	The Doc Tool will not be able to find its control file SYSQRY.DC, and will give you an error message.
6	To correct the cause of the error, select Escape to Command Processor Enter SP to call up the pathname display. Change the pathname of the Documentation Control Directory back to \$Fn>&DOC> .	Pathname is defined.
7	Select EXIT .	
8	Press [CTL] [HELP] to return to the Doc Tool. Select the Retry File Operation target.	The Doc Tool should be able to find its control file and display the menu of prebuilt queries.

Practice Exercises - Use the Doc Tool

Purpose

Now that you have used most of the Doc Tool functions, take some time to practice using the Doc Tool.

Do your best to figure out how to solve typical user requirements we've described below. **When necessary, refer to the Doc Tool Help display and manual for assistance.**

The solutions are provided following the exercises. If you plan to be a user of the Documentation Tool at your site, our advice is *not* to look at the solutions until you have tried to use the Doc Tool manual to find a solution.

Practice 1

Document the tuning constants for the PID controllers in your assigned process device.

Set up the query so the tuning constant parameters (K, T1, and T2) are shown in the query results, as well as the process device number, and the description of each point.

Save the query "setup" onto your removable media. Assign the query "setup" a description of your choice.

Save the query results onto your removable media.

Assign the following filename to the query results: 1P###.XX

Practice 2

Document the I/O connections for the PID controllers in your assigned process device:

- For a UCN-based controller—document the input and output sources.
- For a hiway-based controller—document the PV(x) and SP(y) sources.

The document should include the number of the process device, the unit and description of each point, and the point's assigned algorithm.

Save the query "setup" onto your removable media. Assign the query "setup" a description of your choice

Save the query results onto your removable media.

Assign the following filename to the query results: 2P###.XX

Practice Exercises - Use the Doc Tool, Continued

Practice 3

Document the algorithms of all points in Unit AM of an Application Module.

In the results, show the point description, unit, and algorithm.

Save the query “setup” and the query results onto your removable media. Assign the following filename to the query results: 3P###.XX

Practice Exercise Solutions

Practice 1

Document the tuning constants for the PID controllers in your assigned process device.

Set up the query so the tuning constant parameters (K, T1, and T2) are shown in the query results, as well as the process device number, and the description of each point.

Save the query “setup” onto your removable media. Assign the query “setup” a description of your choice.

Save the query results onto your removable media.

Assign the following filename to the query results: 1P###.XX

Your query display may be similar to the display shown in Figure 5. The results of your query should look similar to Figures 6 and 7.

Figure 7 Query Display, Practice 1

17 Apr 16:45:18 1

FIND	FILTER	SORT	QUERY	OUTPUT	DEFINE CNTRL FILES	OPEN	CLOSE
Build		HWY					
Select Pre-Built		UCN					
Delete Pre-Built		Unit					
		Node					
		Jrn1					
				Save	Overwrite		
Proc Net List?	3						
Device List?	5						
Entity Names?							
Conditions:							
Param values to show:	PTDESC NODENUM K T1 T2 TD						
Descriptor?	TUNING CONSTANTS - NETWORK 3 - HPM 5						
Resource/Entity Types:							
ALL	DIG IN	DIG OUT	DIG COMP	ANL IN	ANL OUT	LOGIC	DEV CTL
REG PV	REG CTL	FLAG	TIMER	NUMERIC	ARRAY	PROC MOD	
CTL	CTL	CTL	CTL	CTL	CTL	F2	F4
U	D	R	L	T	B	DEL	FFWD
						F5	FBCK
						F8	F9
						PATH	ERRORS
							FIELD

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Practice Exercise Solutions, Continued

Practice 2

Document the I/O connections for the PID controllers in your assigned process device:

- For a UCN-based controller—document the input and output sources.
- For a hiway-based controller—document the PV(x) and SP(y) sources.

The document should include the number of the process device, the unit and description of each point, and the point's assigned algorithm.

Save the query “setup” onto your removable media. Assign the query “setup” a description of your choice

Save the query results onto your removable media.

Assign the following filename to the query results: 2P###.XX

Your queries and results may be set up similar to the ones shown in the following figures:

- UCN Query Display *Figure 8*
- UCN Query Results *Figure 9*
- UCN Query Results [CTL] [R] *Figure 10*
- Hiway Query Display *Figure 11*
- Hiway Query Results *Figure 12*
- Hiway Query Results [CTL] [R] *Figure 13*

Practice 2 UCN solutions

Figure 10 UCN Query Display, Practice 2

Practice Exercise Solutions, Continued

Practice 2 UCN solutions, continued

Figure 11 UCN Query Results, Practice 2

07 Feb 92 18:40:28 1						
FIND	FILTER	SORT	QUERY	OUTPUT	DEFINE CNTRL FILES	OPEN CLOSE
ENTITY		NODENUM	UNIT	PTDESC	CTLALGID	CISR
FIC21000		5	01	STEAM FLOW CONTROL	PID	AI210
TIC21000		5	01	STEAM TEMP. CONTROL	PID	TI210
Operation complete.						

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Figure 12 UCN Query Results [CTL] [R], Practice 2

07 Feb 92 18:41:23 1						
FIND	FILTER	SORT	QUERY	OUTPUT	DEFINE CNTRL FILES	OPEN CLOSE
NODENUM	UNIT		PTDESC		CTLALGID	CISRC(1) CODSTN(1)
5	01		STEAM FLOW CONTROL	PID	AI21000.PV	FPV21000.OP
5	01		STEAM TEMP. CONTROL	PID	TI21000.PV	FIC21000.SP
<div> <div>CTL CTL CTL CTL CTL CTL</div> <div>U D R L T B</div> </div> <div> <div>F2 F4 F5 F8 F9 F10</div> <div>DEL FFWD FBACK PATH ERRORS FIELD</div> </div>						

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Practice Exercise Solutions, Continued

Practice 2 Hiway solutions

Figure 13 Hiway Query Display, Practice 2

17 Apr16:49:201

FIND	FILTER	SORT	QUERY	OUTPUT	DEFINE	CNTRL FILES	OPEN	CLOSE
------	--------	------	-------	--------	--------	-------------	------	-------

Build

Select Pre-Built UCN

Delete Pre-Built Unit

Node

Jrn1

Save

Overwrite

Proc Net List?2

Device List?5

Entity Names?

Conditions:

Param values to show:BOXNUM UNIT PTOESC ALGIDDAC PVSIGNAL PVSLSRC SPSIGNAL SPSLSRC

Descriptor?PV/SP SOURCES - HIWAY 2 - MC BOX 5

Resource/Entity Types:

ALL

COUNTER

DIG IN

DIG OUT

DIG COMP

ANL IN

ANL OUT

ANL COMP

FLAG

TIMER

NUMERIC

LOG BLK

REG

CTL CNTR

PROC MOD

CTL CTL CTL CTL CTL CTL F2 F4 F5 F8 F9 F10

U D R L T B DEL FFWD FBACK PATH ERRORS FIELD

33947.1

Figure 14 Hiway Query Results, Practice 2

29 May14:44:041

FIND	FILTER	SORT	QUERY	OUTPUT	DEFINE CNTRL FILES	OPEN	CLOSE
ENTITY		BOXNUM	UNIT	PTDESC		ALGIDDAC	PVSI
FIC21101		5	01	STEAM FLOW CONTROLLER		PIDNORM	PV
TIC21101		5	01	TEMPERATURE CONTROLLER		PIDNORM	PV

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Practice Exercise Solutions, Continued

Figure 16 Query Display, Practice 3

16 Oct 98 08:18:32 4

FIND	FILTER	SORT	QUERY	OUTPUT	DEFINE CNTRL FILES	OPEN	CLOSE
Build		HWY					
Select Pre-Built		UCN					
Delete Pre-Built		Unit					
		Node					
		Jrnl					
				Save		Overwrite	
Unit List?		A1					
Entity Names?							
Conditions:							
Param values to show:		PTDESC UNIT CTLALGID					
Descriptor?		POINTS IN AM UNIT A1					
Resource/Entity Types:							
ALL		AM	UCN	HWY	CM		
CTL	CTL	CTL	CTL	CTL	CTL	F2	F4 F5 F8 F9 F10
U	D	R	L	T	B	DEL	FFWD FBACK PATH ERRORS FIELD

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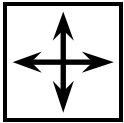
Figure 17 Query Results, Practice 3

16 Oct 98 08:22:07 4

FIND	FILTER	SORT	QUERY	OUTPUT	DEFINE CNTRL FILES	OPEN	CLOSE
ENTITY			PTDESC	UNIT	CTLALGID		
DV023241			DO FOR DVL23241	A1	!!!		
AG024241				A1	!!!		
DO_PU241			DO FOR PU23241	A1	!!!		
SIMLT241			A/B REACTOR SIMULATOR	A1	!!!		
REACT241			A/B REACTOR SEQUENCES	A1	!!!		
FILL2241			PMOP FOR TANK 2	A1	!!!		
FILL3241			PMOP FOR TANK 3	A1	!!!		
IOSIM241			CL WHEN USING SIMULATOR	A1	!!!		
FIC21241			STEAM FLOW CONTROL	A1	PID		
TIC21241			STEAM TEMP. CONTROL	A1	PID		
FY21241			SOLUTION A FLOW IND.	A1	!!!		
FY22241			SOLUTION B FLOW IND.	A1	!!!		
FY23241			DRAIN FLOW INDICATOR	A1	!!!		
FVL21241			SOL. A FEED VALVE	A1	!!!		
FVL22241			SOL. B FEED VALVE	A1	!!!		
DVL23241			TANK DRAIN VALVE	A1	!!!		
AG24241			AGITATOR MOTOR	A1	!!!		
INGA241			INGREDIENT A	A1	!!!		
INGB241			INGREDIENT B	A1	!!!		
STATE241			REACTOR EMPTY & CLEAN	A1	!!!		
FULMT241			REACTOR FULL OR EMPTY	A1	!!!		
CLNDT241			REACTOR CLEAN OR DIRTY	A1	!!!		
CTL	CTL	CTL	CTL	CTL	CTL	F2	F4 F5 F8 F9 F10
U	D	R	L	T	B	DEL	FFWD FBACK PATH ERRORS FIELD

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Directions



This is the end of the study material for this course module. Discuss questions concerning the study material or the lab activities with a colleague or a course manager.

If you are satisfied that you have achieved the objective of this module, continue with the next section, the Proficiency Evaluation.

Proficiency Evaluation

Criterion Test

Test Item 1

Set up a *node* query to search for a condition, Save the query to your disk as a prebuilt query named NODE QUERY.

Execute the query and save the results to your disk as filename NODE.XX
Print the query results.

Filter some data from the query results. Use the AND operator in the condition for the filter.

Print the results of your filter.

Test Item 2

Set up a *unit* prebuilt query that searches for a specific condition. Set up the query to show several parameters in the results. Save the query to your disk as a prebuilt query named UNIT QUERY.

Execute the query and save the results to your disk as filename UNIT.XX

Sort the query results by one or more of the fields. Print the results of your sort.

Test Item 3

Demonstrate to your course manager how to search for a pattern in a field of data displayed in the Doc Tool. Use a wildcard character in the specified pattern.

Test Item 4

Describe to your course manager the purpose of the two Doc Tool directories and the purpose of the DEFINE CONTROL FILES target on the Doc Tool display.

Self-Evaluation

Test item 1

Set up a *node* query to search for a condition, Save the query to your disk as a prebuilt query named NODE QUERY.

Execute the query and save the results to your disk as filename NODE.XX
Print the query results.

Filter some data from the query results. Use the AND operator in the condition for the filter.

Print the results of your filter.

Test item 1 solution

After selecting the query build function, select **NODE** as the query type.

Type in a condition. Example: *PERIOD=1*

Type several parameters in the "Parameters To Show" port so those fields will be created in the query results.

Example: *CTLALGID, CISRC(1), MODE*

Type in the query descriptor, then select **SAVE** .

Press **[ENTER]** to execute the query.

(See Figure 16)

Use the **OUTPUT** target to save the results to a file.

Select the **FILTER** target. Turn on the filter function, then type a condition.
(The condition must refer to field names.)

Example:
MODE=MAN AND CTLALGID = PID OR CTLALGID=NULL.

Press **[ENTER]** to execute the sort.

(See Figure 17)

Use the **OUTPUT** target to print the results to a printer.

Test item 1 solution,
continued

Figure 18 Example of Node Query Results—Test Item 1

```

07 Feb 92 13:41:19 1

```

FIND	FILTER	SORT	QUERY	OUTPUT	DEFINE CNTRL FILES	OPEN	CLOSE
ENTITY			CTLALGID	CISRC(1)	MODE		
FIC21000			PID	AI21000.PV	MAN		
TIC21000			PID	TI21000.PV	MAN		
FY21000		???	???	???	???		
FY22000		???	???	???	???		
FY23000		???	???	???	???		
FVL21000		???	???	???	MAN		
FVL22000		???	???	???	MAN		
DVL23000		???	???	???	MAN		
AG24000		???	???	???	MAN		
AGTIM000		???	???	???	???		
SIMLT000		???	???	???	???		
REACT000		???	???	???	???		
SETNK000		???	???	???	???		
FI23911		???	???	???	???		
PU23911		???	???	???	???		
LOGIC_FORSOE		???	???	???	???		
TIC21			PID	--.--	MAN		
FIC21			NULL	???	MAN		
M ALOGIC		???	???	???	???		
FY21PM		???	???	???	???		

```

Operation complete.

```

Figure 19 Example of Filter Results—Test Item 1

07 Feb 92 13:50:03 1

FIND	FILTER	SORT	QUERY	OUTPUT	DEFINE CNTRL FILES	OPEN	CLOSE
ENTITY			CTLALGID	CISRC(1)	MODE		
FIC21000		PID	AI21000.PV	MAN			
TIC21000		PID	TI21000.PV	MAN			
TIC21		PID	---.---	MAN			
FIC21		NULL	@@@	MAN			
CTL	CTL	CTL	CTL	CTL	F2	F4	F5
U	D	R	L	T	B	DEL	FFWD FBACK
						F8	F9
						PATH	ERRORS FIELD

Self-Evaluation, Continued

Test item 2

Set up a *unit* prebuilt query that searches for a specific condition. Set up the query to show several parameters in the results. Save the query to your disk as a prebuilt query named UNIT QUERY.

Execute the query and save the results to your disk as filename UNIT.XX

Sort the query results by one or more of the fields. Print the results of your sort.

Test item 2 solution

After selecting the query build function, select **UNIT** as the query type.

Type in several units. Example: 01, 02, and 03

Type several parameters in the "Parameters To Show" port.
Example: PTDESC, NMODE, and UNIT

To find the name of a particular parameter of interest, refer to the appropriate Parameter Reference Dictionary (HG, PM, APM, LM, or AM).

Type in the query descriptor, then select **SAVE** .

Press [ENTER] to execute the query.

(See Figure 18)

Use the **OUTPUT** target to save the results to a file.

Select the **SORT** target. Turn on the sort function, and then type in one or more field names on which to sort.
Example: NMODE, ENTITY

Press [ENTER] to execute the sort.

(See Figure 19)

Use the **OUTPUT** target to print the results to a printer.

Self-Evaluation, Continued

Test item 2 solution,
continued

Figure 20 Example of Unit Query Results—Test Item 2

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FIND	FILTER	SORT	QUERY	OUTPUT	DEFINE	CNTRL	FILES	OPEN	CLOSE
ENTITY			PTDESC		NMODE		UNIT		
TI21000					???		01		
AI21000					???		01		
FI21000					???		01		
FI22000					???		01		
FI23000					???		01		
LI24000			REACTOR LEVEL INDICATOR		???		01		
FPV21000					???		01		
ASIM000			SOL. A FLOW SIMULATOR		NONE		01		
BSIM000			SOL. B FLOW SIMULATOR		NONE		01		
DSIM000			DRAIN FLOW SIMULATOR		NONE		01		
LSIM000			REACTOR LEVEL SIMULATOR		NONE		01		
AGI24000					???		01		
AGO24000					???		01		
FIC21000			STEAM FLOW CONTROL		CAS		01		
TIC21000			STEAM TEMP. CONTROL		AUTO		01		
FY21000			SOLUTION A FLOW IND.		???		01		
FY22000			SOLUTION B FLOW IND.		???		01		
FY23000			DRAIN FLOW INDICATOR		???		01		
FVL21000			SOL. A FEED VALVE		MAN		01		
FVL22000			SOL. B FEED VALVE		MAN		01		
DVL23000			TANK DRAIN VALVE		MAN		01		
AG24000			AGITATOR MOTOR		MAN		01		
CTL	CTL	CTL	CTL	CTL	F2	F4	F5	F8	F9
U	D	R	L	T	B	DEL	FFWD	FBACK	PATH
									ERRORS
									FIELD

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Figure 21 Example of Sort Results—Test Item 2

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FIND	FILTER	SORT	QUERY	OUTPUT	DEFINE	CNTRL	FILES	OPEN	CLOSE
ENTITY			PTDESC		NMODE		UNIT		
SETNK000			TANK FULL OR EMPTY		???		01		
SETNK101			SET TANK STATUS		???		01		
SIMLT000			A/B REACTOR SIMULATOR		???		01		
SIMLT101			SIMULATOR PROGRAM		???		01		
STATE000			REACTOR EMPTY & CLEAN		???		01		
STATE101			READY BUSY INDICATOR		???		01		
STIM_SDI			APM MANUAL AUTO STATION		???		01		
TI21000					???		01		
TM20101			AGITATOR TIMER		???		01		
PLV23911			FLAGFOR PU232911		???		01		
PU23911			DISCHARGE PUMP		000		01		
TIC21			STEAM TEMP. CONTROL		AUTO		01		
TIC21000			STEAM TEMP. CONTROL		AUTO		01		
TIC21101			TEMPERATURE CONTROLLER		AUTO		01		
FIC21000			STEAM FLOW CONTROL		CAS		01		
FIC21101			STEAM FLOW CONTROLLER		CAS		01		
AG24000			AGITATOR MOTOR		MAN		01		
AG24101			AGITATOR STARTER		MAN		01		
ASIM101			SOLUTION A SIMULATOR		MAN		01		
BSIM101			SOLUTION B SIMULATOR		MAN		01		
DSIM101			PRODUCT FLOW SIMULATOR		MAN		01		
DVL23000			TANK DRAIN VALVE		MAN		01		
CTL	CTL	CTL	CTL	CTL	F2	F4	F5	F8	F9
U	D	R	L	T	B	DEL	FFWD	FBACK	PATH
									ERRORS
									FIELD

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Self-Evaluation, Continued

Test item 3

Demonstrate to your course manager how to search for a pattern in a field of data displayed in the Doc Tool. Use a wildcard character in the specified pattern.

Test item 3 solution

*With a file displayed on the screen, select the **FIND** target from the command line.*

Type in the pattern to be searched. An example of a pattern with a wildcard character is T?. This would cause a search for T followed by any character. (Other wildcard characters are defined in the Documentation Tool manual).

Type in a field name. (This field must have been previously defined in the file displayed on the screen.)

Press [ENTER].

Test item 4

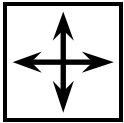
Describe to your course manager the purpose of the two Doc Tool directories and the purpose of the DEFINE CONTROL FILES target on the Doc Tool display.

Test item 4 solution

The Documentation Control Directory is a directory that should contain a file with the pre-defined name of SYSQRY.DC. The file holds prebuilt queries. The file is created by using the DEFINE CONTROL FILES target on the Doc Tool display. In the US pathname display, the default name of the Documentation Control Directory is &DOC. The user may change this name at any time prior to a Doc Tool work session. The directory specified in the pathname display must be created on the media also named in the pathname.

The Temporary File Directory is a directory that ordinarily is empty. If an engineering function is in progress, such as the Doc Tool, temporary files are put into this directory. Examples of temporary files are results of sorts and queries. In the US pathname display, the default name of the Temporary File Directory is TFIL. The user may change this name at any time prior to a Doc Tool work session. The directory specified in the pathname display must be created on the media also named in the pathname.

Directions



This is the end of this course module.

Choose another course module (for which you are eligible) from the course map and begin working on it, or check with your course manager.

LAST PAGE