

Chapter

8

Shell Scripting: For Loops

In this chapter, you will learn the following to World Class standards:

- 1. Adding Comments**
- 2. The For Loop**
- 3. For Loops in Conditional Statements**

A For Loop Shell Script

The For loop allows us to designate a variable with a list of values, and then execute a similar action involving each variable. In this chapter we will consider a very simple program, but if it was written without a For loop it would be a longer script. This specific program will display the seven days of the week.

```
# days is a program that outputs the days of the week
for DAYS in Sunday Monday Tuesday Wednesday Thursday Friday Saturday
do
    echo $DAYS
done
```

Figure 8.1 – Days Shell Script

Adding Comments

Once again we'll start by looking at the first line of the program. The pound sign designates it as a comment, and we used it to describe the program's function. Remember, we can also use comments to describe the purpose of individual lines of code or add other important notes like copyright information.

```
# days is a program that outputs the days of the week
for DAYS in Sunday Monday Tuesday Wednesday Thursday Friday Saturday
do
    echo $DAYS
done
```

Figure 8.2 – Adding a Comment to Define the Program

The For Loop

Now it is time to add the For Loop. Start with typing **for**, and then type then name of your variable; in this case, we used **DAYS**. Now we will type each weekday with a space in between. This designates each weekday as a value listed under the variable **DAYS**.

```
# days is a program that outputs the days of the week
for DAYS in Sunday Monday Tuesday Wednesday Thursday Friday Saturday
do
    echo $DAYS
done
```

Figure 8.3 – The For Loop

The next part of the For loop is the action which will be applied to each value stored in the variable. First type **do** and then on the next line, indented, type **echo \$DAYS**. This will display the individual value of each day. There are seven different values stored to the variable **DAYS**

so there will be seven different echo commands, and each day will be displayed. Type **done** at the end of the script to end the program.

```
# days is a program that outputs the days of the week
for DAYS in Sunday Monday Tuesday Wednesday Thursday Friday Saturday
do
    echo $DAYS
done
```

Figure 8.4 – The For Loop’s Action

When we are done in the text editor, we can save the file as **days.exe** or just **days**. If we save the file as **days**, we can convert it to an executable file by typing in the Bash command **chmod ugo+x days**. To run the program type **sh days**.

For Loops and Conditional Statements

We can insert a For loop into a program with a conditional statement. For an example, here’s a program that prompts the user if they would like to see the days of the week or the months of the year. After prompting the user for his/her choice, we construct a conditional statement with a for loop for the then action as well as the else action. The first for loop displays the days of the week if the user types D, and if not the program will display the months.

```
# days_months is a program that outputs the day of the week or months of the year
echo "This program outputs the day of the week or months if the year"           # program definition
echo -n "Do you want days of the week or months of the year? D or M?"         # choice
read choice                                                                    # user prompt
if [ "$choice" = "D" ]
then
    # output days
    for DAYS in Sunday Monday Tuesday Wednesday Thursday Friday Saturday
    do
        echo $DAYS
    done
Else
    # output months
    for MONTHS in Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
    do
        echo $MONTHS
    done
fi                                                                              # end of program
```

Figure 8.5 – For Loops in a Conditional Statement

*** World Class CAD Challenge 9-8 * - Write a Script that displays two message boxes, the first will contain the script name, copyright date and author. The second message will display information from the computer.**

Continue this drill four times using some other messages, each time completing the VBScript in less than 30 minutes to maintain your World Class ranking.