

Shell Script Programs with Prompts

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Adding Comments

When we want to place a comment in a Shell Script, we type the pound sign (#) in front of the phrase or sentence. The first comment usually defines the program to anyone opening and reading the executable file. We can also write copyright information in this area. Comments for each line can be written at the end of the coded expression as shown in the example.

```
# ctof.exe is a Celsius to Fahrenheit conversion program  
echo "This program converts Celsius to Fahrenheit" # program definition  
echo " "# space  
echo -n "what is the temperature in Celsius? "# user prompt  
read c # reads input  
let f=$((c*9/5+32)) # Fahrenheit conversion  
echo "Celsius temperature $c converts to $f Fahrenheit" # shows the answer
```

Output the Program's Purpose

We can use the Echo command to output what the program will do. When we have more than one Shell Script in a folder, we can first display on the monitor what the software will do on our computer before answering the user's prompts. This is good programming etiquette.

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```

Prompting the User

We can also employ the Echo command to ask the user for input. In our example, we will ask the computer operator, “what is the temperature in Celsius?” The next line in the code after the user prompt is the read command where we set the user’s input to a variable. In our program, we set the Celsius temperature to the variable c.

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echo -n "what is the temperature in Celsius? "        # user prompt
read c                                                 # reads input
let f=$c*9/5+32                                       # Fahrenheit conversion
echo "Celsius temperature $c converts to $f Fahrenheit" # shows the answer
```

Converting with a Calculation

The formula for converting Celsius to Fahrenheit is shown on the right. We take the variable `c` and type the `$c*9/5`. We will multiply by 9 and divide by 5. Finally, we will add 32 to the number. The mathematical equation is to equal the variable `f` representing the Fahrenheit temperature.

$$F = \frac{9}{5}C + 32$$

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let f=$c*9/5+32                                       # Fahrenheit conversion
echo "Celsius temperature $c converts to $f Fahrenheit" # shows the answer
```

Outputting an Answer

To see the answer on the monitor, again, we use the echo command. We can place the \$c and \$f variables inline with the text string, so the computer user can make sense of the answer.

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echo -n "what is the temperature in Celsius? "        # user prompt
read c                                                 # reads input
let f=$c*9/5+32                                       # Fahrenheit conversion
echo "Celsius temperature $c converts to $f Fahrenheit" # shows the answer
```

When we are done in the text editor, we can save the file as **ctof.exe** or just **ctof**. If we save the file as **ctof**, we can convert it to an executable file by typing in the Bash command **chmod ugo+x ctof**. To run the program type **sh ctof**. When prompted for the Celsius temperature, we can type 100 and the answer will return as 212 Fahrenheit.

Program another Shell Script

Write another program. One that converts from Fahrenheit to Celsius using the formula shown.

$$C = \frac{5}{9} (F - 32)$$