UT 13.
INTRODUCTION TO SHELL SCRIPTING
Activities

Computer Systems
CFGS DAW

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Nomenclature

Throughout this unit different symbols will be used to distinguish important elements within the content. These symbols are:

 Important

 Attention

 Interesting

UT 13. Introduction to shell scripting

Activities

In these activities, you will be writing code for the bash shell. If you don't have it installed in your system you will need to use a Docker container or a virtual machine.

1. Exercise 1

Write a Bash script that prompts the user to enter a password, and keeps prompting them until they enter the correct password. The correct password is "password123".

2. Exercise 2

Write a Bash script that accepts two integer arguments and uses a for loop to print all numbers between the two arguments, inclusive. If the first argument is greater than the second argument, the script should print an error message and exit.

3. Exercise 3

Write a Bash script that reads numbers from the user and calculates their sum. The script should continue reading numbers until the user enters a negative number, and then print the sum of all the numbers entered (excluding the negative number).

4. Exercise 4

Write a Bash script that prints a right-angled triangle of asterisks, where the height of the triangle is given as a command-line argument.

For example:

```
./triangle.sh 5

*
**
***
****
*****
```

5. Exercise 5

Write a Bash script to count the number of occurrences of a given word in each line of a text file. The script should take two arguments: the name of the file to search, and the word to search for. For each line of the file, the script should count the number of occurrences of the search word and print that count followed by the original line.

For example, for the file `foo.txt`:

```
4 potato potato 3
five six
seven potato
potato
```

And the invocation `exercise_5.sh foo.txt potato`, it will print:

```
2: 4 potato potato 3
0: five six
1: seven potato
1: potato
```