# COMMAND LINE ASSIGNMENT

PEER LEARNING DOCUMENT

## Problem Statement -

**Question 1.** Write a bash script to get the current date, time, username, home directory and current working directory.

**Question 2.** Write a bash script (name Table.sh) to print the Table of a number by using a while loop. It should support the following requirements.

- The script should accept the input from the command line.
- If you don't input any data, then display an error message to execute the script correctly.

**Question 3.** Write a Function in bash script to check if the number is prime or not? It should support the following requirement.

- The script should accept the input from the User.

**Question 4.** Create a bash script that supports the following requirement.

- Create a folder 'Assignment'.
- Create a file 'File1.txt' inside 'Assignment' Folder.
- Copy all the content of Table.sh in 'File1.txt' without using 'cp' and 'mv' command.
- Append the text Welcome to Sigmoid' to the 'File1.txt' file.
- List all the directories and files present inside Desktop Folder.

**Question 5.** You have given an array. Using Bash script, print its length, maximum element, and minimum element.
arr=( 2 3 4 1 6 7).

## Mohan Gundluri

# Approach -

### Question - 1

He had used the following commands to fetch the desired details

| Command | Function |
|---|---|
| $(date +"Year: %Y, Month: %m, Day: %d") | Command to fetch the date |
| $(date +"%T") | Command to fetch the time |
| $(whoami) | Command to fetch the current working user |
| $(echo $HOME) | Command to fetch the Home directory |
| $(pwd) | Command to fetch the current wokring directory |

He ran the commands and stored the results in the variables and displayed them on the screen using *echo* command.

### Question - 2

The written script is capable of accepting input from the command line. If no arguments have been given, it reports an error and exits the program with status 1. If not, we store all arguments in an array, run a while loop over the array, and for each element in the array it starts a counter internally, increments it after each iteration, fetches the result, and displays it until the counter value is less than 10. And repeats this internal loop for each argument in the arguments list.

### Question - 3

To determine whether an integer is prime or not, He developed a function called *is_prime*. If the number is less than 2, he flags it as not being a prime, and if it is not, he checks to see if any of the numbers divide the supplied number by running a loop from 2 to sqrt(n) (inclusive both). If any numbers were discovered, we can infer that they are not prime because they have a divisor other than 1 and themselves.

In the main program code, user input is received and saved in a variable, and then the function is called with the argument passed as command line parameters.

## Question - 4

He had used the following commands to solve the problem.

| Command | Function |
|---|---|
| mkdir ~/Desktop/Assignment | Creating folder using mkdir |
| touch ~/Desktop/Assignment/File1.txt | Creating file using touch |
| cat ~/Users/mohangundluri/Desktop/commandline-assignment/Table.sh>> ~/Desktop/Assignment/File1.txt | Copying data in q2 to file1 using cat |
| echo "Welcome to Sigmoid" >> ~/Desktop/Assignment/File1.txt | Appending given text to file1 |
| ls -lah ~/Desktop/ | Printing files and folders in Desktop |

He had used the cat command to copy the text as it reads the content from the file and he passed it to append it to the required file.

## Question - 5

He had used two methods to solve the problem and the two methods are as follows -

**Method - 1**

He used the sort function to determine the maximum and minimum elements in the supplied array. The array was sorted backward for the maximum, and the head1 command was used to collect the first member. And sorted forward to get the minimum of the array.

**Method - 2**

To obtain the highest and minimum element, He used a for loop. He traversed each element in the loop, using the first as the maximum, to determine whether it is greater than the maximum value we have presumptively determined if yes he changed it to the current element else and continue traversing. The same he followed for finding the minimum.

## Aayush Sinha

# Approach -

### Question - 1

He had used the following commands to fetch the desired details

| Command | Function |
|---|---|
| date "+DATE: %Y-%m-%d" | Command to fetch the date |
| date "+TIME: %H:%M:%S" | Command to fetch the time |
| $USER | Command to fetch the currently working user |
| $HOME | Command to fetch the Home directory |
| $pwd | Command to fetch the current working directory |

### Question - 2

The written script is capable of accepting input from the command line. If no arguments have been given, it reports an error and exits the program. If not, then he initialized a counter and take a run a while loop till is less than equal to 10 and displays the fetched result by multiplying and updating the counter in every iteration.

### Question - 3

He created the prime function, which checks if an integer is prime or not. He flags the number as not being a prime if it is less than 2, and if it is, he runs a loop from 2 to sqrt(n) to see whether any of the other numbers divide the supplied number (inclusive of both). If any numbers were found he incremented the counter which resembles no of factors for the given number, and if the no of factors is greater than or equal to 1 which means we can assume that they are not prime because they have a divisor other than themselves and 1, which means they are not prime. Else if it is 0 they are prime as they have zero divisors.

User input is taken in and saved in a variable in the main program code before the function is run and the argument is supplied as command line parameters.

## Question - 4

He used the following commands to solve the problem.

| Command | Function |
|---|---|
| mkdir Assignment | Creating folder using mkdir |
| cd Assignment | Change into folder |
| cat ../Table.sh > File1.txt | Copying data in q2 to file1 using cat |
| echo "Welcome to Sigmoid" >> File1.txt | Appending given text to file1 |
| ls ~/Desktop | Printing files and folders in Desktop |

He had used the cat command to copy the text as it reads the content from the file and he passed it to append it to the required file, he hasn't created that explicitly but the absence of file while executing the command itself creates the file and performs the said operation.

## Question - 5

He utilized a for loop to obtain the highest and lowest element. Using the initial element in the loop as the maximum, he toured each element in the loop to check if it was bigger than the maximum value that had, presumably, been determined. If it was, he set it to the current element; otherwise, he continued traversing. He used the same procedure to determine the minimum.