LAB SESSION 10

1. **What test command should be used to test that /usr/bin is a directory or a file?**

```
#!/bin/bash
if [ -d /usr/bin ]; then
   echo "/usr/bin is a directory"
else
   echo "/usr/bin is not a directory"
fi
```

2. **Write a script that takes two strings as input compares them and depending upon the results of the comparison prints the results.**

```
#!/bin/bash
echo "Enter the first string: "
read string1
echo "Enter the second string: "
read string2
if [ "$string1" == "$string2" ]; then
   echo "The strings are equal"
else
   echo "The strings are not equal"
fi
```

3. **Write a script that takes a number (parameter) from 1-3 as input and uses case to display the name of corresponding month.**

```
#!/bin/bash
echo "Enter a number from 1 to 3: "
read number
case $number in
   1)
      echo "January"
      ;;
   2)
      echo "February"
      ;;
   3)
      echo "March"
      ;;
   *)
      echo "Invalid input"
      ;;
esac
```

4. **Write a script that calculates the average of all even numbers less than or equal to your roll number and prints the result.**

```
#!/bin/bash
roll_number=9
```

```
sum=0
count=0
for ((i=2; i<=$roll_number; i+=2)); do
   sum=$((sum + i))
   count=$((count + 1))
done
average=$((sum / count))
echo "The average of even numbers up to your roll number is:$average"
```

5. **Write a function that displays the name of the week days starting from Sunday if the user passes a day number. If a number provided is not between 1 and 7 an error message is displayed.**

```
#!/bin/bash
function displayWeekday() {
   dayNum=$1
   if ((dayNum >= 1 && dayNum <= 7)); then
      case $dayNum in
         1)
            echo "Sunday"
            ;;
         2)
            echo "Monday"
            ;;
         3)
            echo "Tuesday"
            ;;
         4)
            echo "Wednesday"
            ;;
         5)
            echo "Thursday"
            ;;
         6)
            echo "Friday"
            ;;
         7)
            echo "Saturday"
            ;;
      esac
   else
      echo "Error: Invalid day number. Please enter a number between 1 and 7."
   fi
}
echo "Enter a number from 1 to 7: "
read userInput
displayWeekday $userInput
```

6. **Write scripts that displays the parameters passed along with the parameter number using while and until statements.**

Using while

```
#!/bin/bash
count=1
while [ $# -gt 0 ]; do
   echo "Parameter $count: $1"
   count=$((count + 1))
   shift
done
```

Using until

```
#!/bin/bash
count=1
until [ $# -eq 0 ]; do
   echo "Parameter $count: $1"
   count=$((count + 1))
   shift
done
```

7. **Write a script that displays the following menu: • Quotient • Remainder** Depending on user's choice, the result of division must be displayed and the loop breaks. The two numbers (dividend and divisor) must be supplied at runtime as command line arguments. If user chooses an item that is not in the list, he must be prompted to make proper choice and the loop must restart (or continue)

```
#!/bin/bash
calculate_quotient() {
   dividend=$1
   divisor=$2
   quotient=$((dividend / divisor))
   echo "The quotient of $dividend divided by $divisor is: $quotient"
}
calculate_remainder() {
   dividend=$1
   divisor=$2
   remainder=$((dividend % divisor))
   echo "The remainder of $dividend divided by $divisor is: $remainder"
}
while true; do
   echo "Menu:"
   echo "1. Quotient"
   echo "2. Remainder"
   echo "3. Quit"
   read -p "Enter your choice (1-3): " choice
   case $choice in
```

```
        1)
            if [ $# -lt 2 ]; then
                echo "Insufficient arguments. Please provide dividend and divisor."
                continue
            fi
            dividend=$1
            divisor=$2
            calculate_quotient $dividend $divisor
            break
            ;;
        2)
            if [ $# -lt 2 ]; then
                echo "Insufficient arguments. Please provide dividend and divisor."
                continue
            fi
            dividend=$1
            divisor=$2
            calculate_remainder $dividend $divisor
            break
            ;;
        3)
            break
            ;;
        *)
            echo "Invalid choice. Please enter a number from 1 to 3."
            ;;
    esac
done
```