1.Write a shell code to accept a string from the terminal, and echo a suitable message if it doesn't have at least 10 characters using **case** and **expr** command.

Code:

```
#!/bin/bash

echo -n "Enter a string: "
read input_string

string_length=$(expr length "$input_string")

case $string_length in
   [0-9])
      echo "The string has less than 10 characters."
      ;;
   *)
      echo "The string has 10 or more characters."
      ;;
esac
```

Output:

```
./stringlength.sh
Enter a string: Manipal
The string has less than 10 characters.
```

2. Devise a script that accepts two directory names d1 and d2, and deletes those files in d2 which are identical to their names in d1.

Code:

```
#!/bin/bash

echo "Enter first and second dir "
read first
read second

uniqFile=$(comm -12 <(ls "$first") <(ls "$second"))
echo "The unique files are:"
echo $uniqFile
for fname in $uniqFile
do
   echo "Deleting $fname from $second"
   rm "$second/$fname"
done
```

Output:

```
./delete-copy.sh
Enter first and second dir
folder1
folder2
The unique files are:
a.c b.c
Deleting a.c from folder2
Deleting b.c from folder2
```

3.Write a script that accepts filenames as arguments. For every filename, it should first check whether it exists in the current directory and then converts its name to uppercase, but only if a file with the new name doesn't exist.

Code:

```
#!/bin/bash

# touch a b c B

if [ $# -gt 0 ]
then
  for file in "$@"
  do
    if [ -f "$file" ]
    then
      upper_file=$(echo "$file" | tr '[:lower:]' '[:upper:]')
      if [ ! -f "$upper_file" ]
      then
        mv "$file" "$upper_file"
        echo "Uppercase file created $upper_file".
      else
        echo "Error: $upper_file already exists"
      fi
    else
      echo "Error: $file does not exist"
    fi
  done
else
  echo "Error: No file names provided"
fi
```

Output:
./convt-up.sh a.c b.c b.txt
Uppercase file created A.C.
Uppercase file created B.C.
Uppercase file created B.TXT.

4.Write a script that displays a special formatted listing showing the permissions, size, filename, last modification time, last access time of filenames supplied as arguments.

Code:
```
#!/bin/bash

if [ $# -eq 0 ]; then
  echo "Error: No filenames provided"
  exit 1
fi

echo "Permissions | Size | Filename | Last Modified | Last Accessed"
echo "-------------------------------------------------------------"

for file in "$@"; do
  if [ -e "$file" ]; then
    permissions=$(ls -l "$file" | cut -d " " -f 1)
    size=$(ls -lh "$file" | awk '{print $5}')
    filename=$(basename "$file")
    last_modified=$(stat -c "%y" "$file")
    last_accessed=$(stat -c "%x" "$file")

    printf "%-12s | %-5s | %-5s | %-16s | %s\n" "$permissions" "$size" "$filename"
"$last_modified" "$last_accessed"
  else
    echo "Error: $file does not exist"
  fi
done
```

Output:
```
./details.sh A.C
Permissions | Size | Filename | Last Modified | Last Accessed
-------------------------------------------------------------
-rw-rw-r--   | 0     | A.C   | 2023-08-17 20:38:03.949788000 +0530 | 2023-08-24
20:58:17.082847000 +0530
```

5.Write a shell script that displays the factorial of a given number.

Code:

```
#!/bin/bash
# A shell script to find the factorial of a number

echo "Enter a number "
read num

fact=1

for((i=2;i<=num;i++))
{
  fact=$((fact*i))
}

echo $fact
```

Output:

```
/fact.sh
Enter a number
5
120
```