BCA-3

SCS291: Linux and Shell Programming Lab

Linux shell scripts

a) Factorial of Numbers

```
#!/bin/bash
echo "Enter a number:"
read num
fact=1
for ((i=1; i<=num; i++))
do
 fact=$((fact * i))
done
echo "Factorial of $num is $fact"
```

b) Even/Odd Numbers

```
#!/bin/bash
echo "Enter a number:"
read num
if (( num % 2 == 0 ))
then
 echo "$num is Even"
else
 echo "$num is Odd"
fi
```

c) Fibonacci Series

```
#!/bin/bash
echo "Enter the number of terms:"
read n
a=0
b=1
echo "Fibonacci series:"
for ((i=0; i<n; i++))
do
 echo -n "$a "
 fn=$((a + b))
 a=$b
 b=$fn
done
echo
```

d) Prime Numbers

```
#!/bin/bash
echo "Enter a number:"
read num
is_prime=1
for ((i=2; i*i<=num; i++))
do
 if ((num % i == 0))
 then
  is_prime=0
  break
 fi
```

```
done
if ((num > 1 && is_prime == 1))
then
  echo "$num is a Prime number"
else
  echo "$num is not a Prime number"
fi
```

e) Arrange Numbers

```
#!/bin/bash
echo "Enter numbers separated by space:"
read -a arr
sorted=($(echo ${arr[@]} | tr ' ' '\n' | sort -n))
echo "Sorted Numbers: ${sorted[@]}"
```

f) Reverse a Number

```
#!/bin/bash
echo "Enter a number:"
read num
rev=0
while [ $num -gt 0 ]
do
  rem=$((num % 10))
  rev=$((rev * 10 + rem))
  num=$((num / 10))
done
echo "Reversed number is $rev"
```

g) Lower Case to Upper Case

```
#!/bin/bash
echo "Enter a string:"
read str
echo "Upper case: ${str^^}"
```

h) Greatest of Three Numbers

```
#!/bin/bash
echo "Enter three numbers:"
read a b c
if ((a > b && a > c))
then
  echo "$a is the greatest"
elif ((b > c))
then
  echo "$b is the greatest"
else
  echo "$c is the greatest"
fi
```