

## CONTENT BEYOND SYLLABUS

### 1. Write a Shell program to add the given two numbers

#### **ALGORITHM:**

- Read the numbers which will be given by user.
- Use `$((a+b))` to add the numbers
- Use `$var` to store the value after adding the numbers and print the value.

#### **CODE:**

```
echo "Enter the first number"
read a
echo "Enter the second number"
read b
var=$((a+b))
echo $var
```

#### **OUTPUT:**

```
Enter the first number
50
Enter the second number
50
100
```

**2. Write a Shell program to check the given number is even or odd****ALGORITHM:**

- Read a number which will be given by user.
- Use  $((\$n \% 2))$ . If it equal to 0 then it is even otherwise it is odd.
- Use if-else statements to make this program more easier.
- Must include 'fi' after written 'if-else' statements.

**CODE:**

```
# HOW TO FIND A NUMBER IS EVEN OR ODD IN SHELL SCRIPT
clear
echo "---- EVEN OR ODD IN SHELL SCRIPT  "
echo -n "Enter a number:"
read n
rem=$(( $n%2))
if [ $rem -eq 0 ]
then
echo "$n is even"
else
echo "$n is Odd"
fi
```

**OUTPUT:**

```
---- EVEN OR ODD IN SHELL SCRIPT  "
Enter a number:23
23 is odd
```

**3. Write a Shell program to check the given year is leap year or not****ALGORITHM:**

Step 1: start shell script

Step 2: clear the screen.

Step 3: take a year input by the user.

Step 4: implement if-else statement.

Step 5: give condition #year % 4

Step 6: if result ==0 then it is leap year otherwiser it is not

Step 7: stop shell script

**CODE:**

```
leap=$(date +%Y)
echo taking year as $leap
if [ $((leap % 4)) -eq 0 ]
then
echo leap year
else
echo is not a leap
year
fi
```

**OUTPUT:**

taking year as 2023

2023 is not a leap year

**4. Write a Shell program to find the factorial of a number****ALGORITHM:**

1. Get a number
2. Use for loop or while loop to compute the factorial by using the below formula
3.  $\text{fact}(n) = n * n-1 * n-2 * \dots 1$
4. Display the result.

**CODE:**

```
#shell script for factorial of a number #factorial using while loop
echo "Enter a number"
read num
fact=1
while [ $num -gt 1 ]
do
fact=$((fact * num))
num=$((num - 1))
done
echo $fact
```

**OUTPUT:**

```
Enter a number: 3
6
Enter a number: 4
24
```

**5 ) Write a Shell program to swap the two integers.**

**ALGORITHM:**

1. Store the value of the first number into a temp variable.
2. Store the value of the second number in the first number.
3. Store the value of temp into the second variable.

**CODE:**

```
# Static input of the
# numbers
first=5
second=10

temp=$first
first=$second
second=$temp

echo "After swapping, numbers are:"
echo "first = $first, second = $second"
```

**OUTPUT:**

After swapping, numbers are:  
first = 10, second = 5

6) Write a Shell program to find the greatest of two integers.

**ALGORITHM:**

1. Enter and Read X
2. Enter and Read Y
3. Use if statement to check the condition for greater than using -gt
4. Also Check the condition for lesser than using -lt using elif
5. Check the condition for equal using -eq using elif
6. Print according to the conditions in the loop

**CODE:**

```
echo "Enter X"
read X
echo "Enter Y"
read Y
if [ $X -gt $Y ]
then
echo X is greater than Y
elif [ $X -lt $Y ]
then
echo X is lesser than Y
elif [ $X -eq $Y ]
then
echo X is equal to Y
fi
```

**OUTPUT:**

```
Enter X
10
Enter Y
5
X is greater than Y
```