



B M S. COLLEGE OF ENGINEERING

(Autonomous Institution)

RECORD OF PRACTICAL WORK

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SUBJECT : U.S.P. Lab

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Particulars of the Experiments Performed CONTENTS

Program 1

Shell script to find if the given year is leap or not

```
#!/bin/sh
```

```
echo "enter year"
```

```
read year
```

```
if [ $(expr $year \% 400 -eq 0) -a $(expr $year \% 4 -eq 0) ]  
then
```

```
    echo "leap year"
```

```
elif [ $(expr $year \% 4 -eq 0) ]; then
```

```
    echo "leap year"
```

```
else
```

```
    echo "not leap year"
```

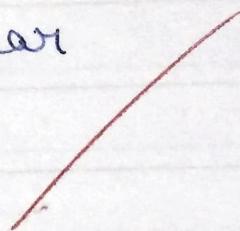
```
fi
```

O/P:-

enter year

2005

not leap year



enter year

2000

leap year

enter year

2004

leap year

Program 2

Shell script to find area of a circle

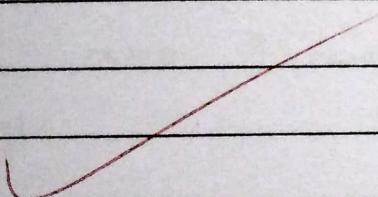
```
#!/bin/sh
```

```
echo "enter radius"
```

```
read radius
```

```
area = `expr $radius * $radius / 22 / 7` // echo "3.14 * $radius  
// $radius" | bc
```

```
echo "area = $area"
```

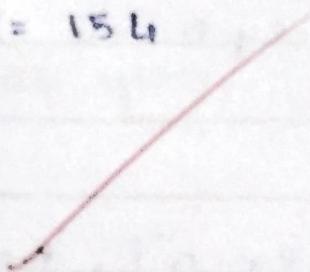


O/P

enter radius

7

area = 154



enter radius

10

area = 314.00

Program 3

Shell script to check whether number is zero/positive/negative

```
echo "enter number"
read num

if [ $num -gt 0 ]; then
    echo "number is positive"
elif [ $num -eq 0 ]; then
    echo "number is zero"
else
    echo "number is negative"
```

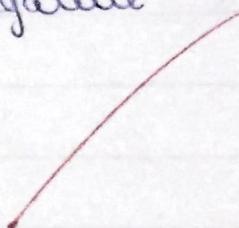
H

off

enter number

-5

number is negative



enter number

0

number is zero

enter number

10

number is positive

Program 4

Shell script to find biggest of three numbers

```
echo "enter 3 numbers"
read num1 num2 num3
```

```
if [ $num1 -ge $num2 -a $num1 -ge $num3 ]; then
    echo "$num1 is greatest"
elif [ $num2 -ge $num1 -a $num2 -ge $num3 ]; then
    echo "$num2 is greatest"
else
    echo "$num3 is greatest"
```

if

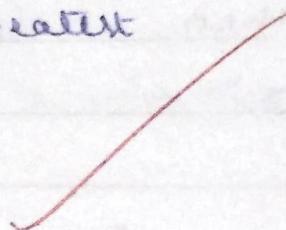
✓

O/P

enter 3 numbers

5 10 15

15 is greatest



enter 3 numbers

10 10 10

10 is greatest

Program 5

Shell script to find factorial of a number

```
#!/bin/bash
```

```
prod=1
```

```
echo "enter number"
```

```
read num
```

```
for (( count=$num; count > 0; count-- )); do
```

```
    prod='expr $prod \* $count'
```

```
done
```

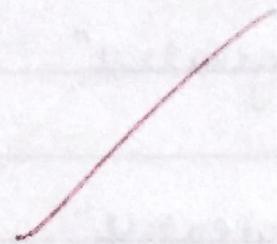
```
echo "factorial is $prod"
```

0f

enter number

4

factorial is 24



enter number

5

factorial is 120

enter number

6

factorial is 720

Program 6

Shell script to find gross salary of an employee

```
#!/bin/sh
```

```
echo "enter salary"
```

```
read salary
```

```
hra='expr 20 * $salary / 100' //echo "0.1 * salary" | bc
```

```
da='expr 10 * $salary / 100' //echo "0.2 * salary" | bc
```

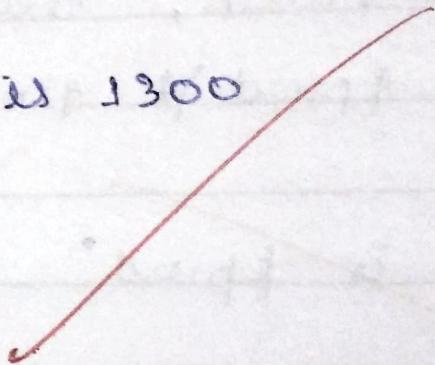
gross salary is ' $\text{expr } \$\text{salary} + \$\text{hra} + \$\text{da}$ '

dp

enter salary

1000

gross salary is 1300



Program 7

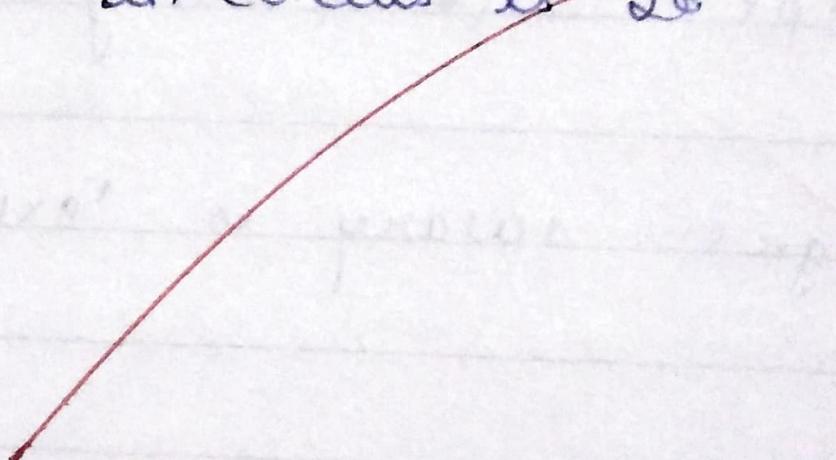
Shell script to convert temperature from Fahrenheit to Celsius

```
#!/bin/bash
read fahrenheit
celsius=`expr $fahrenheit - 32`           // `echo "scale=2; $fahrenheit -32" | bc`
celsius=`expr $celsius / 5 1q`             // `echo "scale=2; $celsius +51q" | bc`
echo "temperature in celsius is $celsius"
```

O/P

68

temperature in celsius is ~~20~~



O/P

90

temperature in celsius is 32.22

Program 8

Shell script to perform arithmetic operations on two numbers

```
echo "enter two numbers"
read num1 num2
```

```
sum='expr $num1 + $num2'
```

```
difference='expr $num1 - $num2'
```

```
product='expr $num1 * $num2'
```

```
quotient='expr $num1 / $num2' `echo "scale=2; $num1 / $num2"
```

```
remainder='expr $num1 % $num2'`
```

```
echo "sum: $sum"
```

```
echo "difference: $difference"
```

~~```
echo "product: $product"
```~~~~```
echo "quotient: $quotient"
```~~~~```
echo "remainder: $remainder"
```~~

O/P

enter two numbers

10 5

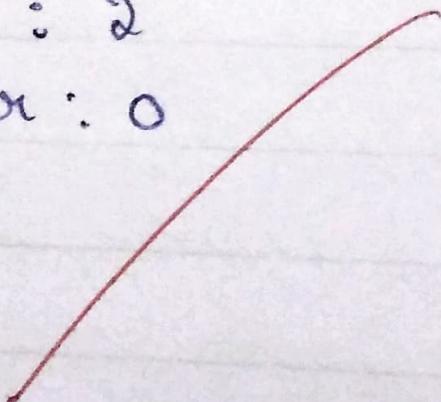
sum: 15

difference : 5

product : 50

quotient : 2

remainder : 0



## Program 9

Shell script to find sum even numbers upto n.

```
echo "enter number"
```

```
read number
```

```
sum=0
```

```
for ((count=0; count<=$number; count+=2))
```

```
do
```

```
sum='expr $sum + $count'
```

done

```
echo "sum of even numbers upto n:$sum"
```

O/P:

enter number:

5

sum of even numbers upto n: 6

enter number:

10

sum of even numbers upto n: 30

Program 10

Shell script to print the combinations of numbers 123

```
for ((i=1; i<=3; i++)); do
 for ((j=1; j<=3; j++)); do
 for ((k=1; k<=3; k++)); do
 if [$i -ne $j -a $j -ne $k -a $i -ne $k]; then
 echo $i $j $k
 done
 done
 done
```

O/P

1 2 3

1 3 2

2 1 3

2 3 1

3 1 2

3 2 1

