**Parag jyoti saikia, Roll no-13/14**

**Shell script programs**

**1) Shell script to calculates the gross salary. (HRA = 20% of basic salary, DA = 50% of basic salary)**

**Code:**

clear

echo -e "Enter basic salary:\c"

read bs

hra=`expr $bs \\* 20 / 100`

da=`expr $bs \\* 50 / 100`

gross=`expr $bs + $hra + $da`

echo "Gross salary is $gross"

**Output:**

Enter basic salary:9000

Gross salary is 15300

**2) Shell Script to Generate Fibonacci Series**

**Code:**

if [ $# -eq 1 ]

then

num=$1

else

echo -n "Enter a Number :"

read num

fi

a=0

b=1

echo "The Fibonacci sequence for the number $num is : "

for (( i=0;i<=num;i++ ))

do

echo -n "$a "

f=$((a+b))

a=$b

b=$f

done

**Output:**

Enter a Number :8

The Fibonacci sequence for the number 8 is :

0 1 1 2 3 5 8 13 21

**3) Shell script to check whether the given number is prime or not.**

**Code**:

clear

echo -e "Enter a number: \c"

read num

i=2

rem=1

if [ $num -lt $i ];

then

echo -e "$num is not a prime number.\n"

exit 0

fi

while [ $i -le `expr $num / 2` -a $rem -ne 0 ];

do

rem=`expr $num % $i`

i=`expr $i + 1`

done

if [ $rem -ne 0 ];

then

echo -e "$num is a prime number.\n"

else

echo -e "$num is not a prime number.\n"

fi

**Output:**

Enter a number: 17

17 is a prime number.

Enter a number: 10

10 is not a prime number.

**4) Shell Script to Find Armstrong Numbers between a Range**

**Code**:

echo -n "Enter the Lower Limit : "

read Start

echo -n "Enter the Upper Limit : "

read Ending

echo "Armstrong Numbers between $Start and $Ending are: "

while [ $Start -le $Ending ]

do

Number=$Start

Length=${#Number}

Sum=0

OldNumber=$Number

while [ $Number -ne 0 ]

do

Rem=$((Number%10))

Number=$((Number/10))

Power=$(echo "$Rem ^ $Length" | bc )

Sum=$((Sum+Power))

done

if [ $Sum -eq $OldNumber ]

then

echo -n "$OldNumber "

fi

let Start++

done

**Output:**

Enter the Lower Limit : 100

Enter the Upper Limit : 400

Armstrong Numbers between 100 and 400 are:

153 370 371 407

**5) Shell script to find the sum of digits of a number.**

**Code**:

clear

echo -e "Enter number:\c"

read n

n1=$n

sum=0

r=0

while [ $n -gt 0 ]

do

r=`expr $n % 10`

sum=`expr $sum + $r`

n=`expr $n / 10`

done

echo -e "Sum of digits of number $n1 is $sum\n"

**Output:**

Enter number:7890

Sum of digits of number 7890 is 24

**6) Shell Script to find profit or loss given the Cost price and Selling price**

**Code**:

clear

echo -e "Enter Cost Price:\c"

read cp

echo -e "Enter Selling Price:\c"

read sp

if [ $sp -eq $cp ];

then

echo -e "\nNo profit or loss has incurred.\n"

elif [ $sp -lt $cp ];

then

echo -e "\nLoss of Rs.`expr $cp - $sp` has incurred.\n"

else

echo -e "\nProfit of Rs.`expr $sp - $cp` has incurred.\n"

fi

**Output:**

Enter Cost Price:1000

Enter Selling Price:1250

Profit of Rs.250 has incurred.

### 7) Write a program to find the factorial value of any number.

**Code**:

clear

echo -e "Enter a number:\c"

read num

fact=1

n=$num

while [ $num -ge 1 ]

do

fact=`expr $fact \\* $num`

num=`expr $num - 1`

done

echo -e "Factorial of $n is $fact\n"

**Output:**

Enter a number:7

Factorial of 7 is 5040

### 8) Shell program to generate all combinations of 1, 2, and 3

**Code**:

clear

for i in 1 2

do

for j in 1 2

do

echo $i $j

done

done

**Output:**

1 1

1 2

2 1

2 2

### 9) Shell program for number sequence.

**Code**:

clear

if [ $# -ne 1 ];

then

n=4

else

n=$1

fi

a=1

i=1

while [ $i -le $n ]

do

b=1

while [ $b -le $i ]

do

echo "$a \c"

a=`expr $a + 1`

b=`expr $b + 1`

done

echo "\n"

i=`expr $i + 1`

done

**Output:**

1

2 3

4 5 6

7 8 9 10

**10. Shell program to find the reverse of a number**

clear

echo "Enter the number:\n"

read n

rev=0

sd=0

while [ $n -gt 0 ]

do

sd=`expr $n % 10`

rev=`expr $rev \\* 10 + $sd`

n=`expr $n / 10`

done

echo "Reverse number is $rev"

**Output:**

Enter the number: 523

Reverse number is 325

**11. Shell script to find the biggest of three numbers.**

**Code**:

clear

echo "Enter the first number:\n"

read n1

echo "Enter the second number:\n"

read n2

echo "Enter the third number:\n"

read n3

if [$nt -gt $n2]&&[$n1 -gt $n3]

then

echo"$n1 is Biggest number"

elif[$n2 -gt $n1][$n3 -gt $n2]

then

echo"$n3 is Biggest number"

fi

**Output:**

Enter the first number: 4

Enter the second number: 10

Enter the third number: 2

10 is the Biggest number

**12.Shell script to determine whether given file exist or not.**

**code**:

clear

echo "Enter the filename"

read $filename

if [ -f $filename ]

then

echo "$1 file exist"

else

echo "Sorry, $1 file does not exist"

fi

**Output:**

Enter the file name: test.sh

Sorry, test.sh file does not exist

13**. How to perform real number calculation in shell script and store result to third variable** ,

a=5.66

b=8.67

c=`echo $a + $b | bc`

echo "$a + $b = $c"

Output: 14.33

**14.Write script to print nos as 5,4,3,2,1 using while loop.**

i=5

while test $i != 0

do

echo "$i

"

i=`expr $i - 1`

done

Output: 5 4 3 2 1

**15.Script to see current date,time,username & directory**

#

echo "Hello, $LOGNAME"

echo "Current date is `date`"

echo "User is `who i am`"

echo "Current direcotry `pwd`"

**Output**:

Hello,Parag

Current date is '24-6-10'

Current directory 'c:\'