

# UNIX

## SIMPLE INTEREST

SHELL

echo "Enter Principle amt"

read p

echo "Enter time in yrs"

read n

echo "Enter Rate"

read r

si=\$(((\$n\*\$p\*r)/100))

echo "\$si"

t=\$(((\$si+\$p))

echo "\$t"

PERL

print "Enter Principle amt\n";

\$p=<>;

print "Enter time in yrs\n";

\$n=<>;

print "Enter Rate\n";

\$r=<>;

\$si=(\$n\*\$p\*\$r)/100;

print "\$si\n";

\$t=\$si+\$p;

print "\$t\n";

$$y = x^3 + 3x^2 - 5x + 8$$

SHELL

echo "the value of x"

read x

y=\$(expr \$x \\* \$x \\* \$x + 3 \\* \$x \\* \$x - 5 \\* \$x + 8)

echo \$y

PERL

print "the value of x\n";

\$x=<>;

\$y= \$x\*\*3 + 3 \* \$x\*\*2 - 5\*\$x + 8;

print "\$y\n"

## FACTORS&MULTIPLES

PERL

print "Enter a number\n";

\$x=<>;

print "Factors\n";

for(my \$i=1;\$i<=\$x;\$i++)

{

if(\$x % \$i == 0)

{

print "\$i\n";

}

}

print "Enter a number\n";

```

$x=<>;
print "MULTIPLES\n";
for(my $i=1;$i<=10;$i++)
{
    $m=$x*$i;
    print "$m\n";
}

```

SHELL

```

echo "Enter a number"
read x
echo "Factors"
for ((i=1;i<=x;i++))
do
    y=$(( $x % $i ))
    if [ $y == 0 ]
    then
        echo "$i"
    fi
done

```

```

echo "Enter a number"
read x
echo "Multiples"
for ((i=1;i<=10;i++))
do
    m=$(( $x * $i ))
    echo "$m"
done

```

## FIBONACCI

### SHELL

```
echo "Enter the number of terms"
read num
t1=0
t2=1
sum=0
echo "$t1"
echo "$t2"
for((i=3;i<=num;i++))
do
sum=$((expr $t1 + $t2))
t1=$t2
t2=$sum
echo "$sum"
done
```

### PERL

```
#!/bin/perl
print "Enter the number of terms you want in fibo";
$n=<>;
$t1=0;
$t2=1;
print "$t1 \n$t2\n";
for($i=3;$i<=$n;$i++)
{
    $sum=$t1 + $t2;
    $t1=$t2;
```

```
$t2=$sum;  
print "$sum\n";  
}
```

## FACTORIAL

### SHELL

```
echo "Enter the number"  
read num  
fact=1  
for((i=num;i>0;i--))  
do  
fact=$((expr $fact \* $i))  
done  
echo "The Factorial of $num is $fact "
```

### PERL

```
print "Enter the number\n";  
$num=<>;  
$fact=1;  
for($i=$num;$i>0;$i--)  
{  
$fact=$fact*$i;  
}  
print "The Factorial of $num is $fact\n";
```

## 6 SUBJECTS

SHELL

```
echo "Enter the marks of 6 subjects"
y=0
for ((i=0;i<=5;i++))
do
read marks[i]
y=$((expr $y + ${marks[i]}))
done
echo "Total marks of student is $y"
percentage=$((expr $y / 3))
echo "Percentage of student is $percentage"
```

PERL

```
print "Enter the marks of 6 subjects\n";
for($i=0;$i<=5;$i++)
{
$a=<>;
$y=$y+$a;
}
print "Total marks of student is $y\n";
$percentage=$y/3;
print "Percentage of student is $percentage\n"
```

### REVERSE OF WORD ARRAY

SHELL

```
echo "In given order"
names=(hello Hi Bye Bye!)
for((i=0;i<=3;i++))
do
```

```

echo "${names[$i]}"
done
echo "In reverse order"
for((i=3;i>=0;i--))
do
echo "${names[$i]}"
done

```

#### PERL

```

print "In given order\n";
@names=('hello','Hi','Bye','Bye!');
for($i=0;$i<=3;$i++)
{
print "@names[$i]\n";
}
print "In reverse order\n";
for($i=3;$i>=0;$i--)
{
print "@names[$i]\n";
}

```

#### CALCULATOR

##### SHELL(If)

```

y=0
echo "Enter the operation you want to perform"
echo "Addition"

```

```
echo "Subtraction"
echo "Multiplication"
echo "division"
echo "Modulo"
read n
echo "Enter two numbers"
read num1
read num2
if [ $n == 1 ]
then
y=$(expr $num1 + $num2)
elif [ $n == 2 ]
then
y=$(expr $num1 - $num2)
elif [ $n == 3 ]
then
y=$(expr $num1 \* $num2)
elif [ $n == 4 ]
then
y=$((($num1/$num2))
elif [ $n == 5 ]
then
y=$((($num1 % $num2))
else
echo "Invalid command"
fi
echo " The result is $y"
```



## SHELL(SWITCH)

```
#!/bin/bash
sum=0
i="y"

echo " Enter one no."
read n1
echo "Enter second no."
read n2
while [ $i = "y" ]
do
echo "1.Addition"
echo "2.Subtraction"
echo "3.Multiplication"
echo "4.Division"
echo "Enter your choice"
read ch
case $ch in
1)sum=`expr $n1 + $n2`
echo "Sum ="$sum;;
2)sum=`expr $n1 - $n2`
echo "Sub ="$sum;;
3)sum=`expr $n1 \* $n2`
echo "Mul ="$sum;;
4)sum=`expr $n1 / $n2`
echo "Div ="$sum;;
*)echo "Invalid choice";;
esac
echo "Do u want to continue?"
read i
if [ $i != "y" ]
then
exit
fi
done
```

## ARRAY OF MONTHS/DAYS

### PERL

```
@dow=("sunday","monday","tuesday","wednesday","thursday","friday","saturday");

print"enter day no.";

$d=<>;

if($d>=8)

{

print"invalid\n";

}

else

{

print"$dow[$d-1]\n";
```

```
}
```

SHELL

```
dow=(sunday monday tuesday wednesday thursday friday saturday)
```

```
echo "enter day no."
```

```
read d
```

```
if [ $d >= 8 ]
```

```
then
```

```
echo "invalid"
```

```
else
```

```
echo "${dow[$d-1]}"
```

```
fi
```

### EVEN ODD

PERL

```
for($i=0;$i<=100;$i=$i+2)
```

```
{
```

```
    print "$i\n";
```

```
}
```

```
for($i=1;$i<100;$i=$i+2)
```

```
{
```

```
    print "$i\n";
```

```
}
```

SHELL

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

```
for ((i=0;i<=100;i=$i+2))
```

```
do
```

```
    echo "$i"
```

```
done
for ((i=1;i<100;i=$i+2))
do
    echo "$i"
done
```

## POWER/MULTIPLY

```
PERL
print "Enter the number";
$n=<>;
print "Multiplication Table of $n\n";
for($j=1;$j<=10;$j++)
{
    $x=$n*$j;
    print " $n X $j=$x\n";
}
print " Powerable of the $n\n";
for($i=1;$i<=10;$i++)
{
    $y=$n**$i;
    print " $n^$i=$y\n";
}
```

```
SHELL
echo "Enter the number"
read n
```

```
echo "Multiplication Table of $n"
```

```
for ((j=1;$j<=10;j++))
```

```
do
```

```
  x=$(( $n * $j ))
```

```
  echo "$x"
```

```
done
```

```
echo " Powerable of the $n"
```

```
for ((i=1;i<=10;i++))
```

```
do
```

```
  y=$(( $n ** $i ))
```

```
  echo "$y"
```

```
done
```

## PRIME

```
SHELL
```

```
echo "prime numbers upto 100 are :"
```

```
echo "1"
```

```
i=2
```

```
while [ $i -le 100 ]
```

```
do
```

```
  flag=1
```

```
  j=2
```

```
  while [ $j -lt $i ]
```

```
  do
```

```

        rem=$(( $i % $j ))
        if [ $rem -eq 0 ]
        then
            flag=0
            break
        fi
        j=$(( $j+1 ))
    done
    if [ $flag -eq 1 ]
    then
        echo "$i"
    fi
    i=$(( $i+1 ))
done

```

PERL

```

for($i=1;$i<=100;$i++)
{
    $flag=0;
    for($j=1;$j<=$i;$j++)
    {

        $x=$i%$j;
        if($x==0)
        {
            $flag=$flag +1;
        }
    }
}

```

```
# print "$flag for $i \n";  
if($flag==2)  
{  
    print "$i is prime\n";  
}  
}
```

### Student details

```
#!/bin/perl  
$roll = 6;  
@names = ('Ameya', 'Vivek', 'Shirsat');  
$age = 20;  
%gpa = ('Sem1',8.83,'Sem2',9.08,'Sem3',8.65);  
print "Student Details \n";  
print "Name: @names \n";  
print "Roll No.: $roll \n";  
print "Age: $age\n";  
print "Sem 1: $gpa{'Sem1'}\n";  
print "Sem 2: $gpa{'Sem2'}\n";  
print "Sem 3: $gpa{'Sem3'}\n";
```

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