1. Prime Number

```
-echo  "Enter a range:"
 read m
 read n
 echo  "The given range is from $m and $n:"
 echo  "The prime number are: "
 while [ $m -le $n ]
 do
 flag=1
 i=2
 while [ $i -lt $m ]
 do
        if [ `expr $m % $i` -eq 0 ]
        then
                flag=0
                break
        else
        i=`expr $i + 1`
        fi
 done
 if [ $flag -eq 1 ]
 then
        echo $m
 fi
        m=`expr $m + 1`
 done
```

2.Odd and Even

```
-echo -n "Enter a number:"
 read n

 if [ $((n%2)) -eq 0 ]
 then
        echo "even"
 else
        echo "odd"
 fi
```

3.Binary to decimal

```
-echo "Enter a decimal number:"
 read num

 bin=""
 while [[ $num -gt 0 ]]
 do
        rem=`expr $num % 2`
        bin=$rem$bin
        num=`expr $num / 2`
 done
 echo "$bin"

 #echo "Enter a decimal number"
 #read n
 #c=$(echo "obase=2;$n" | bc)
 #echo $c
```

4.Swap two numbers using variables

```
-echo "Enter two numbers:"
 read num1
 read num2
 var=$num1
 num1=$num2
 num2=$var
 echo "Swapped no. are $num1 $num2"
```

5.Swap two numbers without variables

```
-echo "enter a number1:"
 read num1
 echo "enter a number2:"
 read num2
 x=$num2
 y=$num1
 echo "$y, $x"
```

6.Reversing a given number

```
-echo "Enter a number:"
 read n
 k=0
 while [ $n -gt 0 ]
 do
        num=`expr $n % 10`
        k=$(($k * 10) + $num))
        n=`expr $n / 10`
 done
 echo "number is $k"
```

7.Multiplication Table

```
-echo "Enter a number:"
 read n
 i=1
 while [ $i -le 10 ]
 do
        echo " $n x $i = $(( n * i )) "
        i=$(( i + 1 ))
 done
```

8.Leap year or Not.

```
-echo "Enter a year:"
 read y
 if [[ $(( $y % 400 )) -eq 0 ]] && [[ $(( $y % 100 )) -eq 0 ]]
 then
        echo "It is a leap year"
 elif [[ $(( $y % 100 )) -ne 0 ]] && [[ $(( $y % 4 )) -eq 0 ]]
 then
        echo "It is leap year"
 else
        echo "It is not leap year"
 fi
```

9.Generate Fibonacci series.

```
-echo "Enter a number:"
read n
a=0
b=1
echo "Fibonacci series is:"
for (( i=0; i<$n; i++ ))
do
        echo "$a"
        fn=$(( a + b ))
        a=$b
        b=$fn
done
```

10.Basic Calculator

```
-echo "Enter Two numbers : "
 read a
 read b

 echo "Enter Choice :"
 echo "1. Addition"
 echo "2. Subtraction"
 echo "3. Multiplication"
 echo "4. Division"
 read choice
 case $choice in
         1)op=`echo "scale=2; $a + $b" | bc`;;
         2)op=`echo "scale=2; $a - $b" | bc`;;
         3)op=`echo "scale=2; $a * $b" | bc`;;
         4)op=`echo "scale=2; $a / $b" | bc`;;
 esac
 echo "Result : $op"
```

11.Greatest number among three numbers.

```
-echo "Enter three numbers one by one:"
 read a
 read b
 read c
 if [[ $a -gt $b ]] && [[ $a -gt $c ]]
 then
        echo "$a is greatest"
 elif [[ $b -gt $c ]]
 then
        echo "$b is greatest"
 else
        echo "$c is greatest"
 fi
```

12.Pattern

```
-echo "Enter number of rows:"
 read n
 a=0
 for (( i=0; i<$n; i++ ))
 do
        echo " "
        for (( j=0; j<=$i; j++ ))
        do
                a=$(( a + 1 ))
                echo -n "$a"
        done
 done
```

13. Tax Amount

```
-echo "Enter the amount:"
 read amount
 if [[ $amount -lt 1000 ]]
 then
        tax=`echo "scale=2; $amount*5/100" | bc`
        totalamount=`echo "scale=2; $amount+$tax" | bc`
        discount=`echo "scale=2; $totalamount*10/100" | bc`
        finalamount=`echo "scale=2; $totalamount-$discount" | bc`
        echo "Final amount is: $finalamount"
 else
        tax=`echo "scale=2; $amount*7/100" | bc`
        totalamount=`echo "scale=2; $amount+$tax" | bc`
        discount=`echo "scale=2; $totalamount*20/100" | bc`
        finalamount=`echo "scale=2; $totalamount-$discount" | bc`
        echo "Final amount is: $finalamount"
 fi
```