Lab 3

Based on while loop, for loop, do while loop

1)Program to print 100 natural numbers.

```
#include <stdio.h>
int main ()
{
   int i;
   printf("The natural numbers are:\n");
   for(i=1;i<=100;i++)
   {
      printf("%d\t",i);
   }
   return 0;
}
```

2)To print even numbers between 20 and 200.

```
#include <stdio.h>
int main ()
{
   int i;
   printf("The even numbers are:\n");
   for(i=22;i<200;i++)
   {
      if(i%2==0)
      {
      printf("%d\t",i);
      }
   }
   return 0;
}
```

3)To find sum of n natural numbers.

```
#include <stdio.h>
int main ()
{
   int i,sum=0,n;
   printf("Enter the number\n");
   scanf("%d",&n);
   for(i=0;i<=n;i++)
```

```
   {
   sum=sum+i;
   }
   printf("The sum is %d\n",sum);
   return 0;
}
```

4)To find sum of even and odd numbers between 50 to 500 as well as count them.

```
#include <stdio.h>
int main ()
{
   int i,esum=0,osum=0,ecount=0,ocount=0;
   for(i=51;i<500;i++)
   {
   if(i%2==0)
   {
      esum=esum+i;
      ecount=ecount+1;
   }
   else
   {
      osum=osum+i;
      ocount=ocount+1;
   }
   }
   printf("The sum and count is %d\t %d\t",esum,ecount);
   printf("The sum and count is %d\t %d\t",osum,ocount);
   return 0;
}
```

5)To print multiplication table of given number.

```
#include <stdio.h>
int main ()
{
   int i,n,m;
   printf("Enter a number:\n");
   scanf("%d",&n);
   for(i=1;i<=10;i++)
   {
   m=n*i;
   printf("%dx%d=%d\n",n,i,m);
   }
```

```
   return 0;
}
```

6)To find sum of its digits.

```
#include <stdio.h>
int main ()
{
   int n,sum=0,digit;
   printf("Enter a number:\n");
   scanf("%d",&n);
   while(n!=0)
   {
     digit=n%10;
     sum=sum+digit;
     n=n/10;
   }
   printf("The sum of digit is %d\n",sum);
   return 0;
}
```

7)To find reverse of a number.

```
#include <stdio.h>
int main ()
{
   int n,rev=0,digit;
   printf("Enter a number:\n");
   scanf("%d",&n);
   while(n!=0)
   {
     digit=n%10;
     rev=rev*10+digit;
     n=n/10;
   }
   printf("The reverse of digit is %d\n",rev);
   return 0;
}
```

8)To check palindrome or not.

```
#include <stdio.h>
int main ()
{
   int n,rev=0,digit,c;
   printf("Enter a number:\n");
```

```
   scanf("%d",&n);
   c=n;
   while(n!=0)
   {
     digit=n%10;
     rev=rev*10+digit;
     n=n/10;
   }
   if(c==rev)
   {
   printf("%d is palindrome\n",c);
   }
   else
   {
      printf("%d is not palindrome\n",c);
   }
   return 0;
}
```

9)To find factorial of a given number.

```
#include <stdio.h>
int main ()
{
   int n,i,fact=1;
   printf("Enter a number:\n");
   scanf("%d",&n);
   for(i=1;i<=n;i++)
   {
     fact=fact*i;
   }
   printf("The factorial of given number is %d\n",fact);
   return 0;
}
```

10)To generate fibbonacci series up to nth term.

```
#include <stdio.h>
int main ()
{
   int n,i,a,b,c;
   printf("Enter the value of a and b\n");
   scanf("%d %d",&a,&b);
   printf("Enter a number:\n");
   scanf("%d",&n);
   printf("%d\t %d\t",a,b);
```

```
   for(i=1;i<=n;i++)
   {
     c=a+b;
   printf("%d\n",c);
   a=b;
   b=c;
   }
   return 0;
}
```

11)To check a number is prime or composite.

```
#include<stdio.h>
int main()
{
   int i,n,c=0;
   printf ("Enter a number\n");
   scanf ("%d",&n);
   for (i=1;i<=n;i++)
   {
      if(n%i==0)
      c=c+1;
   }
   if (c==2)
   printf ("The number is PRIME");
   else
   printf ("The number is COMPOSITE");
   return 0;
}
```

12)To check a number is Armstrong or not.(For 3 digit number only)

```
#include <stdio.h>
int main ()
{
   int n,arm=0,digit,c;
   printf("Enter a number:\n");
   scanf("%d",&n);
   c=n;
   while(n!=0)
   {
     digit=n%10;
     arm=arm+digit*digit*digit;
     n=n/10;
```

```
    }
    if(c==arm)
    {
       printf("%d is armstrong number\n",c);
    }
    else
    {
       printf("%d is not armstrong number\n",c);
    }
    return 0;
}
```

13)To check a number is Armstrong or not for all digit numbers.

```
#include <stdio.h>
#include <math.h>
int main ()
{
    int n,arm=0,digit,c,k=0;
    c=n;
    printf("Enter a number:\n");
    scanf("%d",&n);
    while(n!=0)
    {
       n=n/10;
       k++;
    }
    c=n;
    while(n!=0)
    {
      digit=n%10;
      arm=arm+pow(digit,k);
      n=n/10;
    }
    if(arm==c)
    {
       printf("Armstrong number\n");
    }
    else
    {
       printf("Not armstrong number\n");
    }
    return 0;
}
```