Iterative Control Statements (Part - 2)
Assignment:-7

Name:-Sourav Samanta

1. Write a program to find the Nth term of the Fibonnaci series.

Ans:-

```
#include<stdio.h>
int main()
{
   int a,b,x=-1,y=1,i;
   printf("Enter a number ");
   scanf("%d",&a);
   for(i=1;i<=a;i++)
   {
      b=x+y;
      x=y;
      y=b;
   }
   printf("%d no term of the fibonacci series =%d",a,b);
   return 0;
}
```

2. Write a program to print first N terms of Fibonacci series.

Ans:-

```
#include<stdio.h>
int main()
{
   int a,b,x=-1,y=1,i;
   printf("Enter a number ");
   scanf("%d",&a);
   for(i=1;i<=a;i++)
   {
      b=x+y;
      x=y;
      y=b;
      printf("%d ",b);
   }
   return 0;
}
```

3. Write a program to check whether a given number is there in the Fibonacci series or not.

Ans:-

```
#include<stdio.h>
int main()
{
   int a,b,x=-1,y=1,i;
   printf("Enter a number ");
```

```
    scanf("%d",&a);
    for(i=1;i<=a;i++)
    {
       b=x+y;
       if(a==b)
         break;
       x=y;
       y=b;
    }
    if(a==b)
      printf("Fibonacci number");
    else
      printf("Not a Fibonacci number");
    return 0;
}
```

3. Write a program to calculate HCF of two numbers.

Ans:-

```
#include<stdio.h>
int main()
{
    int a,b,x;
    printf("Enter Two number ");
    scanf("%d%d",&a,&b);
    for(x=a<b?a:b;x;x--)
    {
        if((a%x==0) &&(b%x==0) )
        {
           printf("HCF of %d and %d is =%d",a,b,x);
           break;
        }
    }
    return 0;
}
```

5. Write a program to check whether two given numbers are co-prime numbers or not

Ans:-

```
#include<stdio.h>
int main()
{
    int a,b,x;
    printf("Enter Two number ");
    scanf("%d%d",&a,&b);
    for(x=a<b?a:b;x;x--)
    {
        if((a%x==0) &&(b%x==0) )
           break;
    }
```

```
    if(x==1)
      printf("%d and %d are co-prime number",a,b);
    else
      printf("%d and %d are not co-prime number",a,b);
    return 0;
}
```

6. Write a program to print all Prime numbers under 100.

Ans:-

```
#include<stdio.h>
int main()
{
    int i,j;
    for(i=2;i<100;i++)
    {
       for(j=2;j<=i/2;j++)
       {
          if(i%j==0)
            break;
       }
       if(j==(i/2+1) )
         printf("%d  ",i);

    }
    return 0;
}
```

7. Write a program to print all Prime numbers between two given numbers.

Ans:-

```
#include<stdio.h>
int main()
{
    int i,j,k;
    printf("Enter two number ");
    scanf("%d%d",&i,&j);
    for(i+=1;i<j;i++)
    {
       for(k=2;k<=i/2;k++)
       {
          if(i%k==0)
            break;
       }
       if(k==(i/2+1) )
         printf("%d  ",i);

    }
    return 0;
}
```

8. Write a program to find next Prime number of a given number.

Ans:-

```
#include<stdio.h>
int main()
{
    int i,k;
    printf("Enter a number ");
    scanf("%d",&i);
    for(i+=1;;i++)
    {
       for(k=2;k<=i/2;k++)
       {
          if(i%k==0)
            break;
       }
       if(k==(i/2+1) )
       {
          printf("%d  ",i);
          break;
       }
    }
    return 0;
}
```

9. Write a program to check whether a given number is an Armstrong number or not.

Ans:-

```
#include<stdio.h>
int main()
{
    int i,j,k,x=0;
    printf("Enter a number ");
    scanf("%d",&i);
    for(j=i;i;i/=10)
    {
       k=i%10;
       x=x+k*k*k;
    }
    if(j==x)
      printf("%d is a Armstrong number",j);
    else
      printf("%d is not a Armstrong number",j);
    return 0;
}
```

10. Write a program to print all Armstrong numbers under 1000.

Ans:-

```
#include<stdio.h>
int main()
{
    int x,y,i,j;
```

```
    for(i=0;i<1000;i++)
    {
       for(j=i,y=0;j;j/=10)
       {
          x=j%10;
          y=y+x*x*x;
       }
       if(i==y)
         printf("%d ",i);
    }

    return 0;
}
```