Assignment – 7

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

```c
#include<stdio.h>
int main()
{
    int a=0,b=1,temp,n;
    printf("Enter a number :");
    scanf("%d",&n);
    printf("%dth term of the Fibonnaci series is : ",n);
    while (n)
    {
        temp = a+b;
        a=b;
        b=temp;
        n--;
    }
    printf("%d ",a);
    return 0;
}
```

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

```c
#include<stdio.h>
int main()
{
    int a=0,b=1,temp,n;
    printf("Enter a number :");
    scanf("%d",&n);
    printf("First %d term of the Fibonnaci series is : ",n);
    while (n)
    {
        printf("%d ",a);
        temp = a+b;
        a=b;
        b=temp;
        n--;
    }
    return 0;
}
```

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

```c
#include<stdio.h>
int main()
{
    int a=0,b=1,temp,n,f;
    printf("Enter a number :");
    scanf("%d",&f);
    n=f+2;
    while (n)
```

```
    {
        if(a==f)
        {
            printf("%d is an number of Fibonacci series",f);
            break;
        }
        temp = a+b;
        a=b;
        b=temp;
        n--;
    }
    if (n==0)
    {
        printf("%d is not a number of Fibonacci series",f);
    }
    return 0;
}
```

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

```
#include<stdio.h>
int main()
{
    int a,b,min;
    printf("Enter two numbers :");
    scanf("%d%d",&a,&b);
    min= a<b?a:b ;
    while (min>0)
    {
        if (a%min==0 && b%min==0)
        {
            printf("%d is HCF of given numbers",min);
            break;
        }
        min--;
    }
    return 0;
}
```

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

```
#include<stdio.h>
int main()
{
    int a,b,min;
    printf("Enter two numbers :");
    scanf("%d%d",&a,&b);
    min= a<b?a:b ;
    while (min>0)
    {
        if (a%min==0 && b%min==0)
        {
            break;
```

```
        }
        min--;
    }
    if(min==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.

```
#include<stdio.h>
int main()
{
    int i,j;
    printf("Prime number under 100 are : ");
    for(i=2;i<=100;i++)
    {
        for(j=2;j<i;j++)
        {
            if(i%j==0)
                break;
        }
        if(j==i)
        {
            printf("%d ",i);
        }
    }
    return 0;
}
```

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

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

```
        }
    }
    return 0;
}
```

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

```
#include<stdio.h>
int main()
{
    int i,j,a;
    printf("Enter a number :");
    scanf("%d",&a);
    for(i=a+1;i<=2*a;i++)
    {
        for(j=2;j<i;j++)
        {
            if(i%j==0)
                break;
        }
        if(j==i)
        {
            printf("Next prime number after %d is %d",a,i);
            break;
        }
    }
    return 0;
}
```

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

```
#include<stdio.h>
int main()
{
    int i,n,arm=0,mod,m;
    printf("Enter a number :");
    scanf("%d",&n);
    m=n;
    while (n!=0)
    {
        mod = n%10;
        n = n/10;
        arm = arm + mod*mod*mod ;
    }
    if(m==arm)
    {
        printf("%d is an Armstrong number",m);
    }
    else
    {
        printf("%d is not an Armstrong number",m);
    }
    return 0;
```

```
}
```

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

```
#include<stdio.h>
int main()
{
    int i,arm,mod,m,n;
    printf("Armstrong number under 1000 are : ");
    for(i=0;i<=1000;i++)
    {
      m=i;
      n=i;
      arm=0;
      while (m!=0)
      {
        mod = m%10;
        m = m/10;
        arm = arm + mod*mod*mod ;
      }
      if(n==arm)
      {
        printf("%d ",n);
      }
    }
    return 0;
}
```