Assignment 7 Solution

Q.1
```c
//Write a program to print first N terms of Fibonacci series

//Solution:

#include<stdio.h>

int main(){
    int num1=1,num,num2=0,num3=0;
    printf("Enter a number:");
    scanf("%d",&num);
    if(num==1 )
        printf("0");
    if(num==2)
        printf("1");
    for(int i=3;i<=i*num;i++)
    {
        if(num<3)
        {
            break;
        }
        num3=num2+num1;
        num2=num1;
        num1=num3;
        if(i==num)
        {
            printf("%d",num3);
            break;
        }
    }
    return 0;
}
```

Q.2
```c
//Write a program to find the Nth term of the Fibonnaci series.

//Solution:

#include<stdio.h>

int main(){
    int num,m=0,j=1,k=0;
    printf("Enter a number:");
```

```
    scanf("%d",&num);
     if(num<=1 || num>=1 )
    {
        printf("0 ");
    }
    if(num>=2)
    {
        printf("1 ");
    }
    for(int i=3 ;i<=i*num;i++)
    {
        if(num<=2)
        {
            break;
        }
         k=m+j;
         m=j;
         j=k;
        printf("%d ",k);
         if(i==num)
         {
            break;
         }
    }
    return 0;
}
```

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

```
//Solution:

#include<stdio.h>

int main(){
    int num,num1=1,num2=0,num3=0;
    printf("Enter a number:");
    scanf("%d",&num);
    if(num==0)
        printf("Entered number %d is a fibonacci number:",num);
    if(num==1)
        printf("Entered number %d is a fibonacci number:",num);
    for(int i=3;i<i*num;i++)
```

```
    {
        num3=num1+num2;
        num1=num2;
        num2=num3;
        if(num3==num)
        {
            printf("Entered number %d is a fibonacci number:",num);
            break;
        }
    }
    return 0;
}
```

Q.4

```
//Write a program to calculate HCF of two numbers

//Solution:

#include<stdio.h>

int main(){

    int num,num2;
    printf("Enter two number:");
    scanf("%d",&num);
    scanf("%d",&num2);
    for(int i=1;i<=i*num;i++)
    {
        if(i%num==0 && i%num2==0)
        {
            int LCM=i;
            int HCF=(num*num2)/LCM;
            printf("%d",HCF);
            break;
        }
    }
    return 0;
}
```

Q.5

```
//Write a program to check whether two given numbers are co-prime numbers or
not

//Solution:

#include<stdio.h>
```

```c
int main(){
    int num,num2,HCF;
    printf("Enter two number:");
    scanf("%d",&num);
    scanf("%d",&num2);
    int min = num < num2 ? num : num2;
    for(int i=1;i<=min;i++)
    {
        if(num%i==0 && num2%i==0)
        {
             HCF=i;
        }
    }
    if(HCF==1)
    {
        printf("Enter number %d and %d are co-prime:",num,num2);
    }
    else
    {
        printf("Enter number %d and %d are not co-prime:",num,num2);
    }
    return 0;
}
```

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

```c
//Solution:

#include<stdio.h>

int main(){
    printf("Prime under 100 are as follow: 2 ");
    for(int i=3;i<101;i++)
    {
        if(i%2!=0)
        {
            printf("%d ",i);
        }
    }
    return 0;
}
```

Q.7//

```
//Solution:

#include<stdio.h>

int main(){
    int num,num2;
    printf("Enter two number:");
    scanf("%d%d",&num,&num2);
    printf("Prime number between %d and %d are: ",num,num2);
    for(num;num<=num2;num++)
    {
        if(num==2)
            printf("2 ");
        if(num%2!=0)
        {
            printf("%d ",num);
        }
    }
    return 0;
}
```

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

```
//Solution:

#include<stdio.h>

int main(){
    int num,count=0;
    printf("Enter a number:");
    scanf("%d",&num);
    if(num%2!=0)
    {
        num++;
    }
    for(num;num<=2*num;num++)
    {
        if(num%2!=0)
        {
            count++;
            printf("%d",num);
            if(count==1)
                break;
```

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

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

```
//Solution:

#include<stdio.h>

int main(){
    int num,count=0,num2,num3,ams=0,sum=1,flag=0;
    printf("Enter a number:");
    scanf("%d",&num);
    num2=num;
    while(num)
    {
        num=num/10;
        count++;
    }
    num3=num2;
    for(int i=1;num2;i++)
    {
        if(num2!=0)
        {
            ams=num2%10;
        }
        num2=num2/10;
        for(int j=1;j<=count;j++)
        {
            sum=sum*ams;
        }
        flag=flag+sum;
        sum=1;
    }
    if(num3==flag)
        printf("%d is amstrong",num3);
    else
        printf("%d is not amstrong",num3);
    return 0;
}
```