Assignment-7

Q-1

Ans

```
#include <stdio.h>
int main() {

 int i, n;

 // initialize first and second terms
 int t1 = 0, t2 = 1;

 // initialize the next term (3rd term)
 int nextTerm = t1 + t2;

 // get no. of terms from user
 printf("Enter the number of terms: ");
 scanf("%d", &n);

 // print the first two terms t1 and t2
 printf("Fibonacci Series: %d, %d, ", t1, t2);

 // print 3rd to nth terms
 for (i = 3; i <= n; ++i) {
  printf("%d, ", nextTerm);
  t1 = t2;
  t2 = nextTerm;
  nextTerm = t1 + t2;
 }
```

```
  return 0;
}
```

Q-3

Ans

```
#include<stdio.h>

void main()
{
  int i,c=0,n;
  int a=0;
  int b=1;
  printf("Enter a number to generate fibonacci series for first n terms\n");
  scanf("%d",&n);

  printf("Fibonacci series for first %d terms:-\n",n);
  for(i=0;i<n;i++)
  {
     printf("%d ",c);
     a=b;
     b=c;
     c=a+b;
  }
}
```

Q-5

Ans

```
#include <stdio.h>
int main()
{
int n1, n2, i, gcd;
```

```
printf("Enter two integers: ");
scanf("%d %d", &n1, &n2);

for(i=1; i <= n1 && i <= n2; ++i)
{
if(n1%i==0 && n2%i==0)
gcd = i;
}

printf("G.C.D is %d", gcd);

return 0;
}
```

Q-6

Ans

```
#include <stdio.h>

int main() {
  int low, high, i, flag;
  printf("Enter two numbers(intervals): ");
  scanf("%d %d", &low, &high);
  printf("Prime numbers between %d and %d are: ", low, high);

  // iteration until low is not equal to high
  while (low < high) {
    flag = 0;

    // ignore numbers less than 2
```

```
    if (low <= 1) {
      ++low;
      continue;
    }

    // if low is a non-prime number, flag will be 1
    for (i = 2; i <= low / 2; ++i) {

      if (low % i == 0) {
        flag = 1;
        break;
      }
    }

    if (flag == 0)
      printf("%d ", low);

    // to check prime for the next number
    // increase low by 1
    ++low;
  }

  return 0;
}
```

Q-7

Ans

```
#include <stdio.h>

int main() {
```

```
int low, high, i, flag;
printf("Enter two numbers(intervals): ");
scanf("%d %d", &low, &high);
printf("Prime numbers between %d and %d are: ", low, high);

// iteration until low is not equal to high
while (low < high) {
  flag = 0;

  // ignore numbers less than 2
  if (low <= 1) {
    ++low;
    continue;
  }

  // if low is a non-prime number, flag will be 1
  for (i = 2; i <= low / 2; ++i) {

    if (low % i == 0) {
      flag = 1;
      break;
    }
  }

  if (flag == 0)
    printf("%d ", low);

  // to check prime for the next number
  // increase low by 1
```

```
    ++low;
  }

  return 0;
}
```

Q-8

Ans

```
#include<stdio.h>
#include<conio.h>
void main()
{
  int n,i,j,flag=0,out;

  clrscr();

  printf("enter the num\n");

  scanf("%d",&n);

  for(i=n+1;i<=100;i++)
  {

    flag=0;

    for(j=2;j<i;j++)
    {
      if(i%j==0)
      {
        flag=1;
```

```
        break;
      }
    }

    if(flag==0)
    {
      printf("next prime is:%d",i);
      break;
    }
  }

  getch();
}
```

Q-9

Ans-

```
#include <stdio.h>
int main() {
   int num, originalNum, remainder, result = 0;
   printf("Enter a three-digit integer: ");
   scanf("%d", &num);
   originalNum = num;

   while (originalNum != 0) {
     // remainder contains the last digit
      remainder = originalNum % 10;

     result += remainder * remainder * remainder;

     // removing last digit from the orignal number
```

```
    originalNum /= 10;
  }

  if (result == num)
    printf("%d is an Armstrong number.", num);
  else
    printf("%d is not an Armstrong number.", num);

  return 0;
}
```

Q-10

Ans

```
#include<stdio.h>
#include<conio.h>
int main( )
{
int no, temp, rem, sum,count=0;
clrscr( );
printf("Armstrong numbers between 1 and 1000 are:\n");
for(no=1; no<=1000; no++)
{
temp=no;
sum=0;
while(temp>0)
{
rem=temp%10;
```

```
sum=sum+(rem*rem*rem);

temp=temp/10;

}

if(no==sum)

{

printf("\n%d", no);

count++;

}

}

printf("%d",count);

getch( );

return 0;

}
```