Assignment-7

① WAP to find the Nth term of the Fibonacci series.

```
#include<stdio.h>
int main()
{
   int a=0,b=1,n=10;
   int sum=0;
   printf("%d %d",a,b);
   for(int i=0;i<n;i++)
  {
    sum = a+b;
     printf("%d ", sum);
    a= b;
    b = sum;
  } printf("%d",
   return 0;  sum);
}
```

Output: 0 1 1 2 3 5 8 13 21 34 55
89

89

② WAP to check ~~p~~ whether a given number is there in the fibonacci series or not.

```
#include<stdio.h>
int main()
{
  int sum=0; num=21, a=0, b=1;
  for(int i=0; i<num; i++)
  { sum = a+b;
    if(sum==num)
    { printf("found");
      break;
    }
    if(sum>num)
    { printf("Not found");
      break;
    }
    a=b;
   b=sum;
  }
  printf("%d", num);
 return 0;
}
```

Output: found 21

③ WAP to print first N ~~natural~~ ~~N~~ terms of Fibonacci series.

```
#include<stdio.h>
int main()
{
  int temp=0,a=0,b=1,n=10;
  printf("%d %d", a,b);
  for(int i=0 ; i<n; i++)
  { ~~stem~~ temp=a+b;
       printf("%d", temp);
       a=b
       b=temp;
  }
  return 0;
}
```

output: 0 1 1 2 3 5 8 13 21 34 55 89

④ WAP to calculate HCF of two numbers.

```
#include <stdio.h>
int main()
{
  int a, b, min, i, hcf;
  a=2;
  b=6;      T
  min = a<b ? a : b;
             F
  for(i=1; i<=min; i++)
  {
     if(a%i==0 && b%i==0)
        hcf=i;
  }
  printf("\nHCF of two number is %d",hcf);
  return 0;
}
```

output: HCF of two number is 2.

⑤ WAP to check whether two given numbers are coprime numbers or not.

```
#include<stdio.h>
int main()
{
  int a,b, min, i,hcf;
  a=2;
  b=3;
  min = a<b? a : b;
  for(i=1; i<=min; i++)
  { if(a%i==0 && b%i==0)
        hcf=i;
  }
  if(hcf ==1)
       printf("Coprime numbers");
  else
       printf(" Not co-prime");
  return 0;
}
```

⑥ WAP to print all prime numbers under 100

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

output:

```
2 3 5 7 11 13 17 19 23 29 31 37 41 43
47 53 59 61 67 71 73 79 83 89 97
```

⑦ WAP to print all prime numbers b/w two given numbers

```
#include <stdio.h>
int main ()
{
  int a, n, i, j, count;
  printf("Enter two numbers ");
  Scanf("%d %d", &a, &n);
  for(i=a; i<=n; i++)
  {
    count=0;
    for(j=a; j<=n; j++)
    { if (i%j==0)
          count++;
    }
    if (count==2)
        printf("%d ", i);
  }
  return 0;
}
```

output

```
Enter two numbers
1
10
2 3 5 7
```

⑧ WAP to find next prime number of a given number

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

Output:

```
Enter a number : 8
Next Prime number is 11
```

⑨ WAP to check whether a given number is an Armstrong number or not

```
#include<stdio.h>
int main()
{
  int n=371, r, sum=0, temp;
  temp=n;
  while(n)
  {
    r=n%10;
    sum=sum+(r*r*r);
    n=n/10;
  }
  if(temp==sum)
      printf("Armstrong number");
  else
      printf("Not Armstrong number");
  return 0;
}
```

(10) WAP to print all Armstrong numbers under 1000

```
#include<stdio.h>
#include <~~conio.h~~ math.h>
int main()
{
  int n=1000, a, b, count=0;
  int rem, sum=0;
  a=n;
 while (a)
 {
  b=a;
  while (b)
  {
   b=b/10;
   count++;
  }
  b=a;
  while (b)
  {
   rem=b%10;
   sum=sum+pow(rem, count);
   b=b/10;
  }
  if (sum==0)
  {
   printf("%d ", sum);
  }
  sum=0;
  rem=0;
  count=0;
  a--;
 }
 ~~return 0;~~
 return 0;
}
```