

### Tutorial - 3.

1. write a c program to Print Prime numbers up to N. Also, write the algorithm & draw the flowchart for the same.

#### Program.

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

#### Algorithm.

Step 1: Start.

Step 2: Declare n, i, j, flag=0

Step 3: Read n

Step 4: Repeat Step 5 & 7 until i<=n

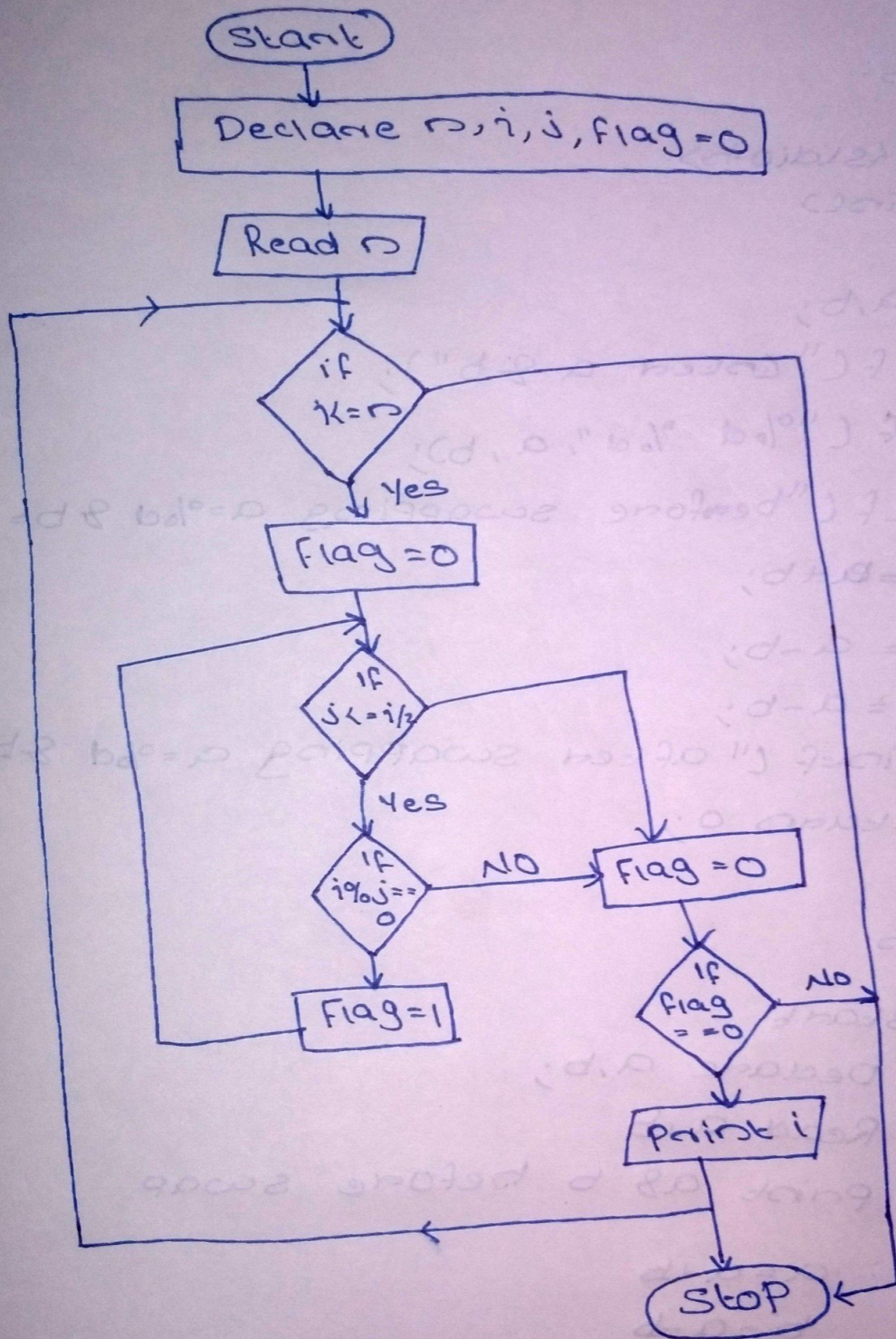
Step 5: Repeat step 6 until j<= i/2



step 7: if (flag == 0). printf (i)

step 8: stop.

Flowchart.





2) write a c Program to swap two numbers without using a third variable. Also, write the algorithm & draw the flowchart for the same.

A) program.

```
#include <stdio.h>
int main()
{
    int a,b;
    printf("Enter a & b");
    scanf ("%d %d", a, b);
    printf("before swapping a=%d & b=%d", a, b);
    a = a + b;
    b = a - b;
    a = a - b;
    printf("after swapping a=%d & b=%d", a, b);
    return 0;
}
```

Algorithm

Step 1: Start

Step 2: Declare a, b;

Step 3: Read a, b

Step 4: Print a & b before swap

Step 5 :  $a = a + b$   
 $b = a - b$   
 $a = a - b$

Step 6: Print a & b after swapping

Step 7: Stop.



## Flowchart.

