

A prime number is an integer number that is divisible by itself and 1 only. In other words, a prime number is an integer N where the remainder of the division of N by all number less than N and greater than 1 is not zero.

Write a code that prompts the user to enter 2 numbers n and m and finds the number of primes between n and m . You need to write a function **isPrime()** that accept a number and returns 1 if the number is prime and 0 otherwise. You also need to write another function **countPrimes()** that accepts 2 numbers n and m and returns the count of primes in the interval $[n, m]$.

Note: There should be no input or output inside the functions. All scanf() and printf() functions are in the main().

Sample Program Run:

```
Enter n and m (n<m): 50 12
```

```
Enter n and m (n<m): 12 50
```

```
Number of Primes in [12,50] = 10
```

```
#include <stdio.h>
#include <math.h>
int isPrime(int );
int countPrimes(int n, int m);
int main(void){
    int k,i,n,m,lim;

    do{
        printf("\nEnter n and m (n<m): ");
        scanf("%d%d",&n,&m);
    }while(n>=m);

    printf("Number of Primes in [%d,%d] = %d\n",n,m,countPrimes(n,m));
    return(0);
}
// -----
int countPrimes(int n, int m){
    int count = 0;
    for(int k = n; k <= m; k++)
        if(isPrime(k))
            count++;
    return count;
}
// -----
int isPrime(int n){
    int i, lim;
    lim = round(sqrt(n)) + 1;
    for(i = 2; i < lim && n%i != 0; i++);
    if(i >= lim)
        return 1;
    else
        return 0;
}
```