a. To print all prime numbers in a series

In [34]:
```
# To check whether a number is prime or not, method 1
num = int(input("Enter the number: "))
if num > 1:
    for i in range(2,num):
        if  (num%i == 0):
            print("Not a prime number")
            break
    else:
        print("It is a prime number")
else:
    print("Give proper input")
```

```
Enter the number: 10
Not a prime number
```

In [20]:
```
# To check whether a number is prime or not, method 2
import math
num = int(input("Enter the number: "))
if num > 1:
    for i in range(2,math.floor(math.sqrt(num))+1):
        if  (num%i == 0):
            print("Not a prime number")
            break
    else:
        print("It is a prime number")
else:
    print("Give proper input")
```

```
Enter the limit: 10
Not a prime number
```

In [36]:
```
# To check whether a number is prime or not, method 3
num = int(input("Enter the number: "))
if num > 1:
    for i in range(2,(num//2)+1):
        if  (num%i == 0):
            print("Not a prime number")
            break
    else:
        print("It is a prime number")
else:
    print("Give proper input")
```

```
Enter the number: 5
It is a prime number
```

In [25]:
```
# To generate prime numbers from 2 to n
n = int(input("Enter the number: "))
for n in range(2,n):
    if n > 1:
        for i in range(2,n):
            if (n % i) == 0:
                break
        else:
            print(n)
```

```
Enter the number: 20
2
3
5
7
11
13
17
19
```

In [37]:
```
lower = int(input("Enter lower range: "))
upper = int(input("Enter upper range: "))

for num in range(lower,upper + 1):
    if num > 1:
        for i in range(2,num):
            if (num % i) == 0:
                break
        else:
            print(num)
```

```
Enter lower range: 20
Enter upper range: 50
23
29
31
37
41
43
47
```

b. To find largest among three numbers, input by user

In [32]:
```
a = int(input("Enter the 1st number: "))
b = int(input("Enter the 2nd number: "))
c = int(input("Enter the 3rd number: "))

if a>b and a>c:
    print("{} is the largest number".format(a))
elif b>a and b>c:
    print("{} is the largest number".format(b))
else:
    print("{} is the largest number".format(c))
```

```
Enter the 1st number: 5
Enter the 2nd number: 10
Enter the 3rd number: 15
15 is the largest number
```

c. To find HCF for two numbers, input by user

In [33]:
```
x = int(input("Enter the 1st number: "))
y = int(input("Enter the 2nd number: "))
x_c = x
while(x!=y):
    if(x > y):
        x = x-y
    else:
        y = y-x

print("The HCF of {} and {} is {}".format(x_c,y,x))
```

```
Enter the 1st number: 15
Enter the 2nd number: 10
The HCF of 15 and 5 is 5
```

In [41]:
```
# recursion method
def hcf(x,y):
    if y == 0:
        return x
    else:
        return hcf(x, x%y)

x = int(input("Enter the 1st number: "))
y = int(input("Enter the 2nd number: "))
print("The HCF of {} and {} is {}".format(x,y,hcf(x,y)))
```

```
Enter the 1st number: 10
Enter the 2nd number: 20
The HCF of 10 and 20 is 10
```