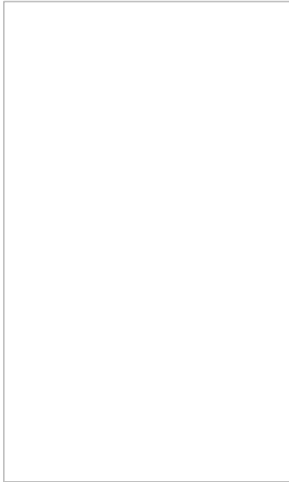


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python while loop statement:



As many people are asking questions about prime numbers program, please check this one

```
p = 10
q = 16

# we will keep checking every number starting from p to q
for i in range(p, q):
    print("we are checking ", i, "is prime or not")

    # we assume that i is not divisible by any number except 1 and i
    is_i_divisible_by_any_number = False

    # now, we will start searching for a number that divides i in range 2, i
    for j in range(2, i):
        # lets check if j divides i or not
        if i % j == 0:
            # since there exist a number j that divides i, our assumption is wrong
            # so we are setting is_i_divisible_by_any_number = True
            is_i_divisible_by_any_number = True
            print(" the number ", j, "divides ", i)
            # since we got the number, so we proved that its not a prime number
            # so we will break it
            break

    # if our assumption still holds even after the search in range(2, i)
    # we declare i as prime number
    if is_i_divisible_by_any_number == False:
        print(i, "is a prime number")
    else:
        print(i, "is not a prime number")

print("="*50)
```

Output of the of the code

```
we are checking 10 is prime or not
the number 2 divides 10
10 is not a prime number
=====
we are checking 11 is prime or not
11 is a prime number
=====
we are checking 12 is prime or not
the number 2 divides 12
12 is not a prime number
=====
we are checking 13 is prime or not
13 is a prime number
=====
we are checking 14 is prime or not
the number 2 divides 14
14 is not a prime number
```

```
=====
we are checking 15 is prime or not
the number 3 devides 15
15 is not a prime number
=====
```