

## ❖ Prime Number :

Explanation: -

If the number is less than or equal to 1, it's not prime.

If  $\text{divisor} * \text{divisor} > \text{num}$ , it means we have checked all possible divisors, so the number is prime.

If  $\text{num} \% \text{divisor} == 0$ , it means the number is divisible by divisor, so it's not prime.

The function calls itself with the next divisor ( $\text{divisor} + 1$ ).

Time Complexity: -  $O(\sqrt{n})$

Space Complexity: -  $O(\sqrt{n})$

[Start]

|

[Input num]

|

[Is num  $\leq 1$  ?]

|

[Yes]

|

[No]

|

|

[Output "not prime"]

|

|

[End] [Is divisor \* divisor  $>$  num?]

|

|

[Yes]

[No]

|

|

[Output "is prime"] |

|

|

[End] [Is num  $\%$  divisor  $== 0$  ?]

|

|

[Yes]

[No]

|

|

[Output "not prime"]

|

[End]