

LAB ASSIGNMENT-1

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Checking prime numbers assignment.

The program shown below (program 1) will check prime numbers without an use of a function..

Steps:

There is an execution of the program beginning with the main block.

The program will request a user to type a number with the keyboard.

The figure entered is added in a variable that will contain the figure to be verified.

A flag variable is produced and presupposed that the number is a prime number.

The program verifies that the number that is entered is less or equal to one.

⇒ When yes, the number is not counted as a prime number since the beginning of prime numbers is two.

When the number is more than one, then the program starts to check whether it is divisible.

⇒ It eliminates the values below two through to the square root of the number which the number cannot be divided into.

In the course of this process of checking:

=> When the number could be divided with any value, it would alter the assumption that this number is prime.

=> The stoppage of the checking process is done to save time.

The program then verifies the Boolean variable after the checking process.

=> In case it represents true, the number is pronounced as a prime number.

=> in the case it is false, then it is stated the number is not a prime number.

Lastly, the outcome is shown on the screen and the program stops.

=>The entire logic is coded within the main execution block.

=>The values that are required to run the program are tested to minimize the time taken.

Program-2:

To verify a number, whether it is a prime number or not with the help of another separate function.

Step-by-Step Process:

The program begins execution at the main block.

The user is asked to type in a number.

The number that was entered is saved and sent to a different function that was developed to verify primality.

The first step involves checking the number, that the number must be larger than one, in the function.

When the figure is lower or equates to one the function automatically proclaims it not prime.

In case the number is valid the function examines divisibility.

- ⇒ It examines the ability of the number to be divided by any number beginning with two to the square root of the number.

In case some figure separates the number entirely:

- ⇒ The operating system displays an outcome of non-primeness of the number.

If no such divisor is found:

- ⇒ The function gives back a value that is stating that the number was a prime.

The result that has been returned gets into the main block.

Based on the returned result:

- o The program displays whether the number is a prime number or not.

The program ceases with the presentation of the output.

Observation:

Checking prime numbers is also logically separated and executed.

It is possible to check many numbers by reusing the same functionality.