```
/*---------------------------DOCUMENTATION SECTION-----------------------------*/

      /*

      In this section we will discuss about the basic things of the c program.

function: function is a set of instruction in which mutiple line of
statement(instruction) are defined.these instruction can be executed by calling the
function by it's name.

global declaration area: it is the area (memory area) outside the every function
including main funtion
in which we declare those variable or function, that can be accessed by any
function.

int: it is a keyword used to store the integer type values (whole numbers).

float: it is a keyword used to store the decimal type values (deciaml values like
1.24, 3.14).

char: it is keyword used to store the character value in a variable.

const: it is a keyword used to define a variable as constant variable, that can be
initialized only once.
      const variable value cannot be changed.

void: void is used to define the return type of the function.

return type: if a function return a something to the caller function then the value
must be return in
      specified data type, that type is called return type.

printf: this function is only used to print/display a message or data to console
screen.
To display/print the particular kind of data it need a format specifier for that
kind of data type.

scanf: this function is only used to read input data from the user.To read a
particular kind of data it need a format specifier for that kind of data type.

      Format Specifier:
            format specifier is used to define that what kind of data will be printed
on the consol and scanned from the user.

      used specifier:-

            %c -- to print or scan character type value.
            %d -- to print or scan integer type value.
*/
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```c
/*Program: In this section we will use the modulus operator to find out the PrimeNumber.*/

/*
	Prime Number: A prime number is a natural number greaater than 1 that is
	is not a product of two samller natural number. it cannot be completly divided
	from any number execept 1 or itself. for example 2, 3, 5, 7, 9.. etc.
*/

#include<stdio.h>

int main(){

/*	Modulus Operator: this operator gives the remainder of a/b if a>b, where a and are the natural number (whole number)*/

	int number = 0;  // int type varaible to hold a number to check that, it is a prime number or not.
	// this number will updated by using the scanf function.

	printf("Enter a number: ");
	scanf("%d", &number);
	/* read a value from the user and put that value into a varaible memory address
		which is named as number.
	*/

	int flag = 1; // initiallly we consider our number is prime.
	/*
		A variable to hold true and false value (1 for true, 0 for false.)
		if flag is set as 1, it means number is prime.
		if flag is set as 0, it means number is not prime.
	*/

	int i; // counter variable for the for-loop define below.
	for(i=2; i<number; i++){ // start of for-loop
		/*
			counter variable i;
			initialized as 2.
			condition: for loop will run until i is less than number. (Note: number is given by the user.)
		*/

		printf("%d %% %d = %d\n\n", number, i, number%i); // explanation is below.

		if (number % i == 0){
			// if any i-number in any iteration given the remainder as 0 than the number is not prime number.
			flag = 0; // to set the flag as 0
		}
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            if (flag == 0){
                  // if any i-number gives the remainder as 0, then stop the loop by
using break statement.
                  break;
            }

      }// end of for-loop

      printf("%d -- is prime number: %d", number, flag);
      /*this printf statement will show the result that, given number is prime or
not.
            1st %d -----> number
            2nd %d -----> flag
      */
}
```

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/*
      line at 84: printf("%d %% %d = %d\n\n", number, i, number%i);

      * This statement is used to show the result of the remainder in each iteration.
      * 1st %d ----> for number
      * 2nd %d ----> for i
      * 3rd %d ----> for number%i  result which is remainder
      * ... %% ----> to print the '%' in the message
*/


/*
```

Code Explanation:

inside main funciton:

1. `int number = 0`: this statement will declare an integer type variable and initialized it as 0;

2. `printf("Enter a number: ")`: This statement will print the message on the screen.

3. `scanf("%d", &number)`: this statement will read the value from the user and put that value into number variable.

4. `int flag = 1`: This statement will declare an integer type variable and initialized it as 1;

5. `int i`: this statement will declare a integer type variable named as i;

6. `for(i=2; i<number; i++)`: this will start a for-loop.

      inside for-loop:

      * `printf("%d %% %d = %d\n\n", number, i, number%i)`:

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            This statement will show the  three values in some format. (number , i ,
and result of number%i)

      * if (number % i == 0): this will check that number%i gives 0 or not: if 0 then
set flag as 0;

      * if (flag == 0): it check that flag value is o or not: if flag value is 0 than
stop the loop.

            7. printf("%d -- is prime number: %d", number, flag):
                  this statement will show the resutl with some message.


*/
```