

**Aim:**

Write a **C** program to demonstrate functions without arguments and with return value.

The below code is used to check whether the given number is a **prime** number or not.

Write the function **prime()**.

Sample Input and Output:

```
Enter a number : 5
The given number is a prime number
```

**Source Code:****FunctionCategories8.c**

```
#include <stdio.h>
int prime();
void main() {
    if (prime() == 0) {
        printf("The given number is a prime number\n");
    } else {
        printf("The given number is not a prime number\n");
    }
}
// Write the function prime()
int prime()
{
    int n,i,r,c=0;
    printf("Enter a number : ");
    scanf("%d",&n);
    for(i=1;i<=n;i++)
    {
        r=n%i;
        if(r==0)
        {
            c++;
        }
    }
    if(c==2)
    {
        return 0;
    }
}
```

**Execution Results** - All test cases have succeeded!

Test Case - 1
User Output
Enter a number : 5

The given number is a prime number
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Test Case - 2
User Output
Enter a number : 27
The given number is not a prime number

Test Case - 3
User Output
Enter a number : 121
The given number is not a prime number

Test Case - 4
User Output
Enter a number : 1
The given number is not a prime number

Test Case - 5
User Output
Enter a number : 117
The given number is not a prime number

Test Case - 6
User Output
Enter a number : 137
The given number is a prime number