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

```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 |

| 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 |