

C Input Functions

C programming language provides built-in functions to perform input operations. The input operations are used to read user values (input) from the keyboard. The c programming language provides the following built-in input functions.

1. **scanf()**
2. **getchar()**
3. **getch()**
4. **gets()**
5. **fscanf()**

scanf() function

The scanf() function is used to read multiple data values of different data types from the keyboard. The scanf() function is built-in function defined in a header file called "**stdio.h**". When we want to use scanf() function in our program, we need to include the respective header file (stdio.h) using **#include** statement. The scanf() function has the following syntax...

Syntax:

```
scanf("format strings",&variableNames);
```

Example Program

```
#include<stdio.h>

#include<conio.h>

void main(){

    int i;

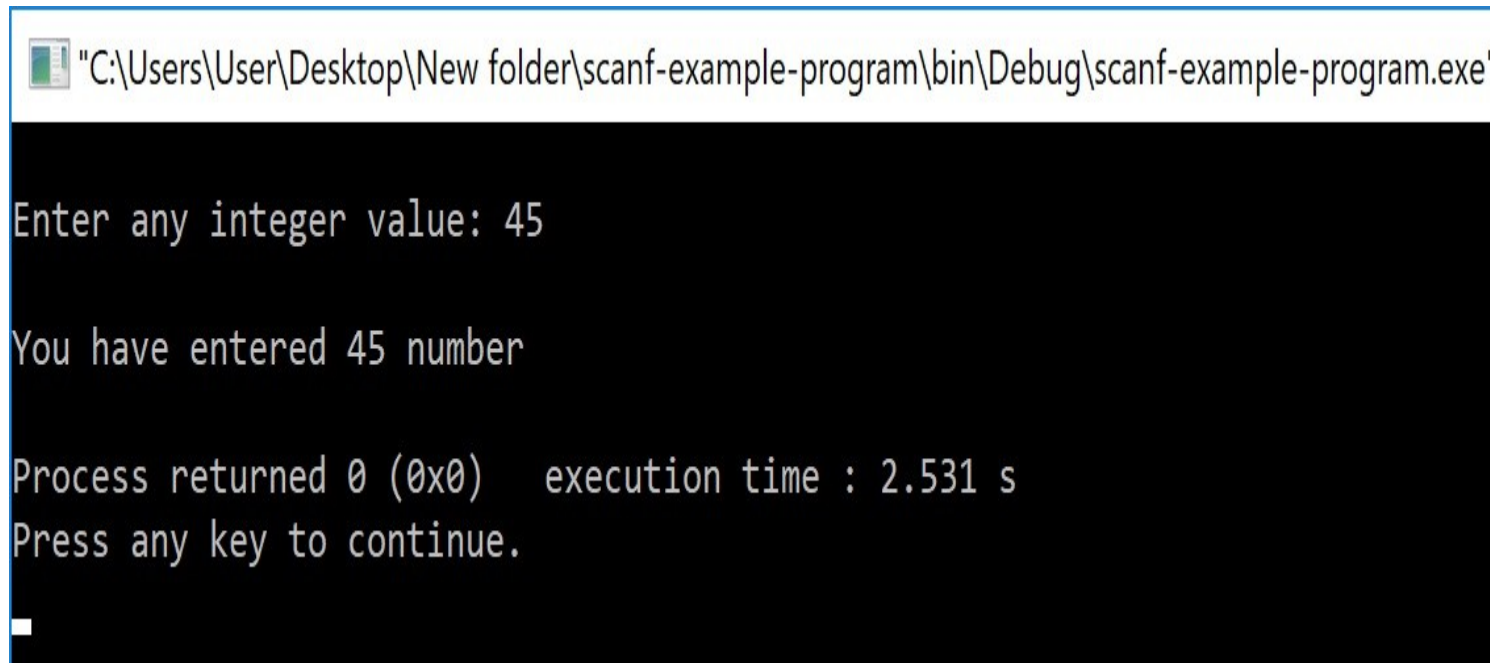
    printf("\nEnter any integer value: ");

    scanf("%d",&i);

    printf("\nYou have entered %d number",i);

}
```

Output:



```
"C:\Users\User\Desktop\New folder\scanf-example-program\bin\Debug\scanf-example-program.exe"

Enter any integer value: 45

You have entered 45 number

Process returned 0 (0x0)   execution time : 2.531 s
Press any key to continue.
█
```

In the above example program, we used the `scanf()` function to read an integer value from the keyboard and store it into variable 'i'.

The `scanf` function also used to read multiple data values of different or the same data types. Consider the following example program...

Example Program

```
#include<stdio.h>

#include<conio.h>

void main(){

    int i;

    float x;

    printf("\nEnter one integer followed by one float value : ");

    scanf("%d%f",&i, &x);

    printf("\ninteger = %d, float = %f",i, x);

}
```

Output:



"C:\Users\User\Desktop\New folder\scanf-example-program\bin\Debug\scanf-example-program.exe"

Enter one integer followed by one float value : 55 10.99

integer = 55, float = 10.990000

Process returned 0 (0x0) execution time : 5.415 s

Press any key to continue.

In the above example program, we used the `scanf()` function to read one integer value and one float value from the keyboard. Here '*i*' is an integer variable so we have used format string `%d`, and '*x*' is a float variable so we have used format string `%f`.

The `scanf()` function returns an integer value equal to the total number of input values read using `scanf` function.

Example Program

```
#include<stdio.h>
```

```
#include<conio.h>
```

```
void main(){
```

```
    int i,a,b;
```

```
    float x;
```

```
    printf("\nEnter two integers and one float : ");
```

```
    i = scanf("%d%d%f",&a, &b, &x);
```

```
    printf("\nTotal inputs read : %d",i);
```

```
}
```

Output:



"C:\Users\User\Desktop\New folder\scanf-example-program\bin\Debug\scanf-example-program.exe"

Enter two integers and one float : 10 20 30.99

Total inputs read : 3

Process returned 0 (0x0) execution time : 12.388 s

Press any key to continue.

getchar() function

The getchar() function is used to read a character from the keyboard and return it to the program. This function is used to read a single character. To read multiple characters we need to write multiple times or use a looping statement. Consider the following example program...

Example Program

```
#include<stdio.h>

#include<conio.h>

void main(){
    char ch;
    printf("\nEnter any character : ");
    ch = getchar();
    printf("\nYou have entered : %c\n",ch);

}
```

Output:



"C:\Users\User\Desktop\New folder\scanf-example-program\bin\Debug\scanf-example-program.exe"

Enter any character : B

You have entered : B

Process returned 0 (0x0) execution time : 5.966 s

Press any key to continue.

■

getch() function

The getch() function is similar to getchar function. The getch() function is used to read a character from the keyboard and return it to the program. This function is used to read a single character. To read multiple characters we need to write multiple times or use a looping statement. Consider the following example program...

Example Program

```
#include<stdio.h>
```

```
#include<conio.h>
```

```
void main(){
```

```
    char ch;
```

```
    printf("\nEnter any character : ");
```

```
    ch = getch();
```

```
    printf("\nYou have entered : %c",ch);
```

```
}
```

Output:



"C:\Users\User\Desktop\New folder\scanf-example-program\bin\Debug\scanf-example-program.exe"

Enter any character :

You have entered : S

Process returned 0 (0x0) execution time : 1.770 s

Press any key to continue.

gets() function

The gets() function is used to read a line of string and stores it into a character array. The gets() function reads a line of string or sequence of characters till a newline symbol enters. Consider the following example program...

Example Program

```
#include<stdio.h>
```

```
#include<conio.h>
```

```
void main(){
```

```
    char name[30];
```

```
    printf("\nEnter your favourite website: ");
```

```
    gets(name);
```

```
    printf("%s",name);
```

```
}
```

Output:



"C:\Users\User\Desktop\New folder\scanf-example-program\bin\Debug\scanf-example-program.exe"

Enter your favourite website: btechsmartclass

btechsmartclass

Process returned 0 (0x0) execution time : 5.880 s

Press any key to continue.

fscanf() function

The fscanf() function is used with the concept of files. The fscanf() function is used to read data values from a file. When you want to use fscanf() function the file must be opened in reading mode.