

C++ Foreach

C++ Foreach

C++ Foreach statement can be used to iterate over the elements of a collection and execute a block of statements for each of the element.

The syntax of C++ Foreach statement is given below.

```
for (int element: arr) {  
    //statement(s)  
}
```

C++ Foreach Element in Array

In this example, we shall use foreach statement, to find the number of even numbers in an integer array.

C++ Program

```
#include <iostream>  
using namespace std;  
  
int main() {  
    int nums[] = {4, 9, 6, 72, 31, 44};  
    int even = 0;  
  
    for (int num: nums) {  
        if (num % 2 == 0)  
            even++;  
    }  
    cout << even;  
}
```

Output

```
4
```

C++ Foreach Character in String

In this example, we shall use foreach statement, to execute a set of statements for each character in a string.

C++ Program

```
#include <iostream>
using namespace std;

int main() {
    string str = "tutorialkart";

    for (char ch: str) {
        cout << ch << " ";
    }
}
```

Output

```
t u t o r i a l k a r t
```

In the following program, we shall use foreach statement, to count the number of vowels in a char array.

C++ Program

```
#include <iostream>
using namespace std;

int main() {
    char charArr[] = {'t','u','t','o','r','i','a','l','k','a','r','t'};
    int vowels = 0;

    for (char ch: charArr) {
        if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u')
            vowels++;
    }
    cout << vowels;
}
```

Output

```
5
```

C++ Foreach Element in Vector

In the following program, we shall print elements of Vector using Foreach statement.

C++ Program

```
#include <iostream>
#include <vector>
using namespace std;
```

```
int main() {
    vector<int> nums;
    nums.push_back(24);
    nums.push_back(81);

    for(int num: nums)
        cout << num << " ";
}
```

Output

```
24 81
```

Conclusion

In this [C++ Tutorial](#), we learned how to use C++ foreach statement to execute a block of statements for each element in a collection or array of elements.

C++ Tutorials

- ◆ [C++ Tutorial](#)
- ◆ [C++ Hello World Program](#)
- ◆ [C++ If Else](#)
- ◆ [C++ Switch](#)
- ◆ [C++ Ternary Operator](#)
- ◆ [C++ Logical Operations](#)
- ◆ [C++ Arithmetic Operations](#)
- ◆ [C++ While Loop](#)
- ◆ [C++ Do-While Loop](#)
- ◆ [C++ For Loop](#)
- ⇒ **C++ ForEach**
- ◆ [C++ Continue](#)
- ◆ [C++ Break](#)
- ◆ [C++ Comments](#)
- ◆ [C++ Recursion](#)
- ◆ [C++ Try Catch](#)
- ◆ [C++ String Operations](#)

◆ C++ Array Operations

◆ C++ Vector Operations

◆ C++ Input Output Operations

◆ C++ Class

◆ C++ Programs