Competitive Programming

CSE – 108

Lab Title: Competitive Programming.

Lab Report - 6: Vector.

Submitted By:

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Section: E-1

Semester: 1-2

Session: Spring 2023

Submitted To:

Sk. Tanzir Mehedi

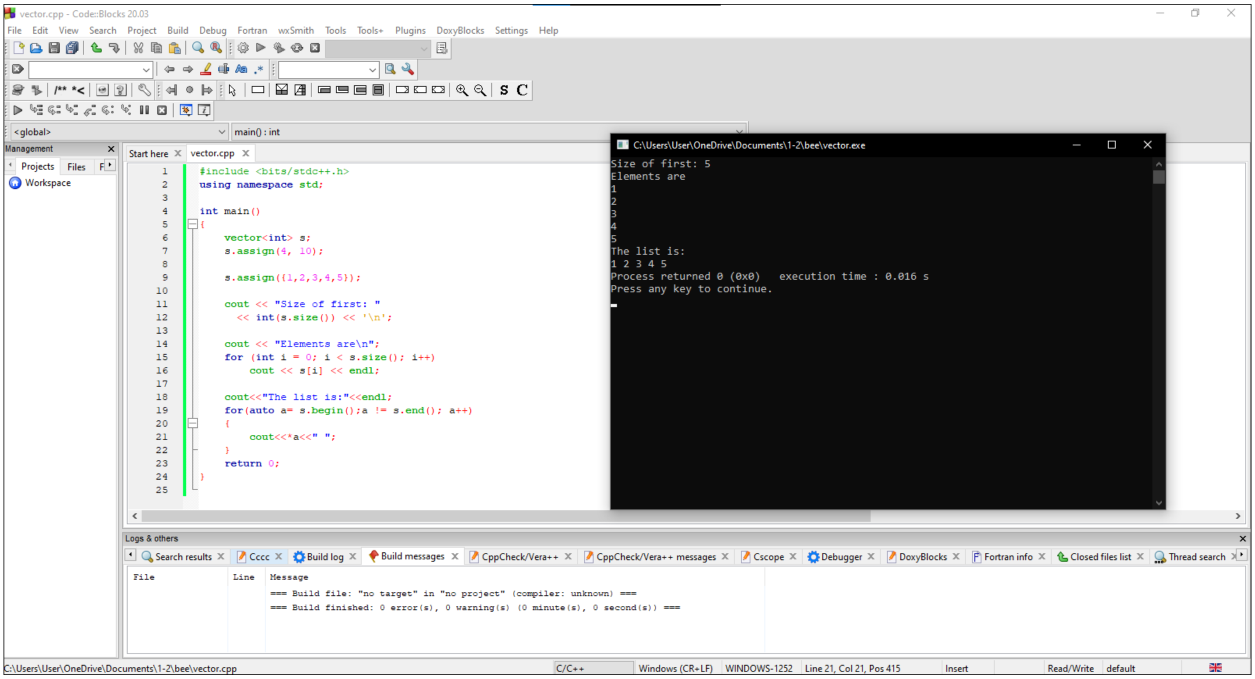
Lecturer

Department of Computer Science & Engineering

University of Asia Pacific

Vector Modifiers

Vector Assign:

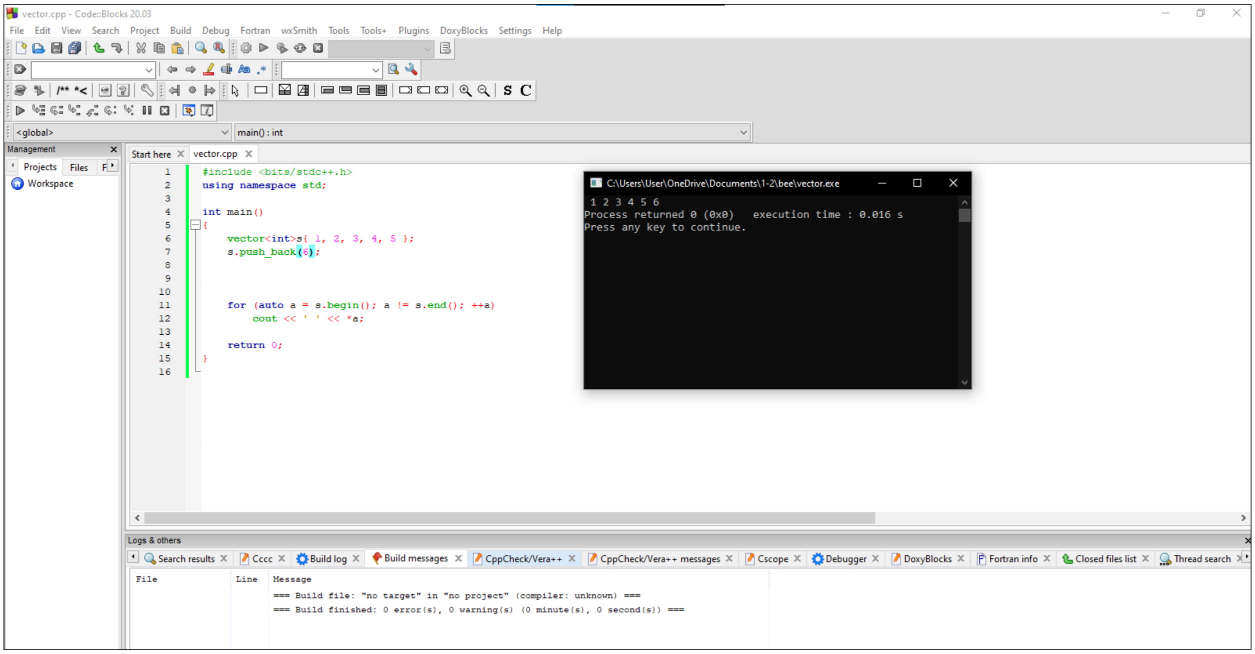

vector.cpp - Code::Blocks 20.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
<global>
main() : int
Management
Projects Files F
Workspace
Start here
vector.cpp
C:\Users\User\OneDrive\Documents\1-2\bee\vector.exe
Logs & others
Search results Cccc Build log Build messages CppCheck/Vera++ CppCheck/Vera++ messages Cscope Debugger DoxyBlocks Fortran info Closed files list Thread search
C:\Users\User\OneDrive\Documents\1-2\bee\vector.cpp
C/C++ Windows (CR+LF) WINDOWS-1252 Line 21, Col 21, Pos 415 Insert Read/Write default

```cpp
#include <bits/stdc++.h>
using namespace std;

int main()
{
    vector<int> s;
    s.assign(4, 10);

    s.assign({1,2,3,4,5});

    cout << "Size of first: "
      << int(s.size()) << '\n';

    cout << "Elements are\n";
    for (int i = 0; i < s.size(); i++)
        cout << s[i] << endl;

    cout<<"The list is:"<<endl;
    for(auto a= s.begin();a != s.end(); a++)
    {
        cout<<*a<<" ";
    }
    return 0;
}
```

```
Size of first: 5
Elements are
1
2
3
4
5
The list is:
1 2 3 4 5
Process returned 0 (0x0)   execution time : 0.016 s
Press any key to continue.
```

```
File          Line   Message
                     === Build file: "no target" in "no project" (compiler: unknown) ===
                     === Build finished: 0 error(s), 0 warning(s) (0 minute(s), 0 second(s)) ===
```

Vector Pushback: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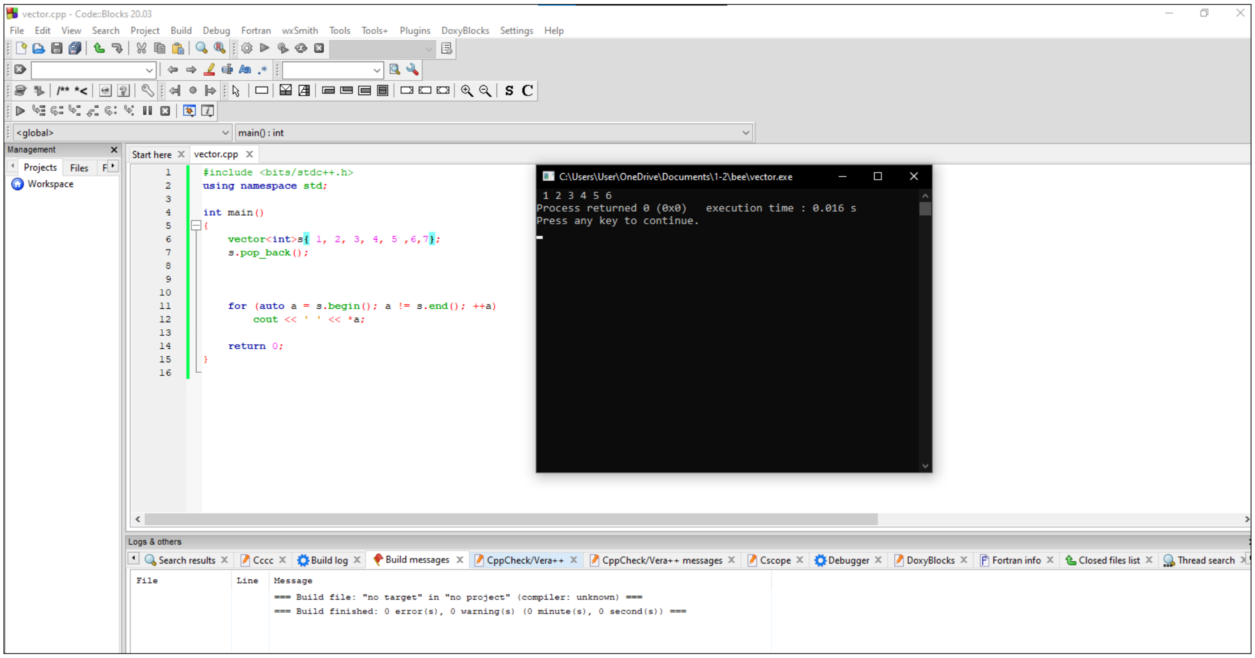
```cpp
#include <bits/stdc++.h>
using namespace std;

int main()
{
    vector<int>s{ 1, 2, 3, 4, 5 };
    s.push_back(6);


    for (auto a = s.begin(); a != s.end(); ++a)
        cout << ' ' << *a;

    return 0;
}
```

```
 1 2 3 4 5 6
Process returned 0 (0x0)   execution time : 0.016 s
Press any key to continue.
```

```
File          Line   Message
                     === Build file: "no target" in "no project" (compiler: unknown) ===
                     === Build finished: 0 error(s), 0 warning(s) (0 minute(s), 0 second(s)) ===
```

Popback of Vector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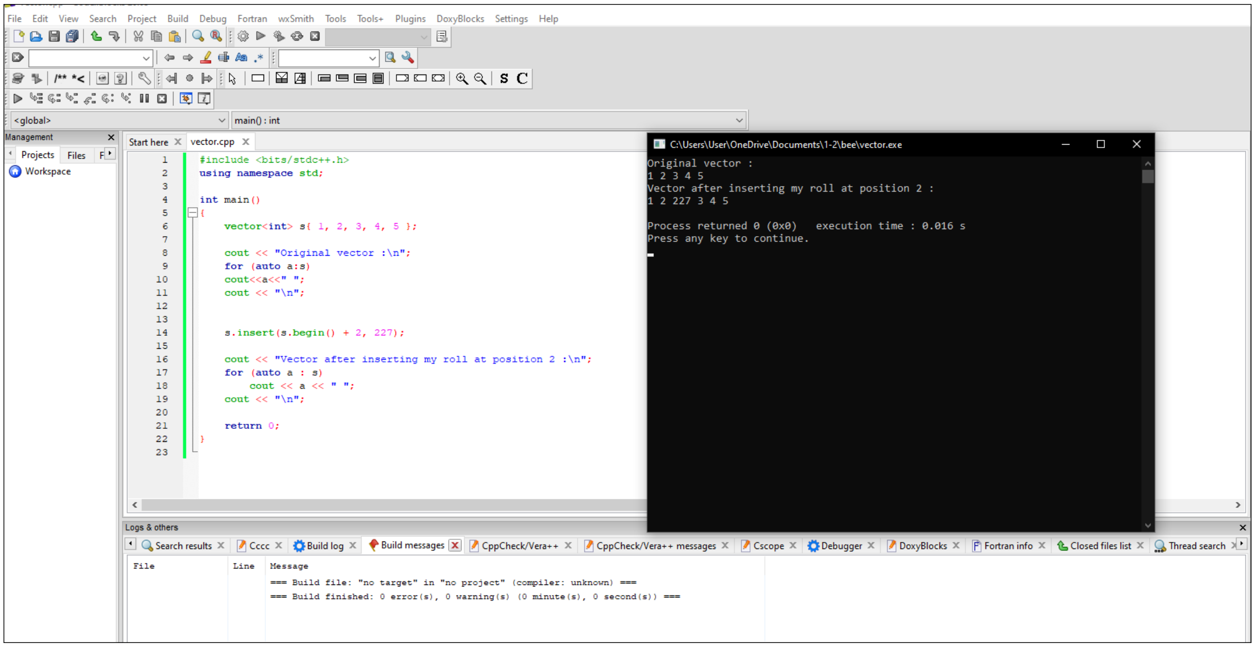
```cpp
#include <bits/stdc++.h>
using namespace std;

int main()
{
    vector<int>s{ 1, 2, 3, 4, 5 ,6,7};
    s.pop_back();


    for (auto a = s.begin(); a != s.end(); ++a)
        cout << ' ' << *a;

    return 0;
}
```

```
 1 2 3 4 5 6
Process returned 0 (0x0)   execution time : 0.016 s
Press any key to continue.
```

```
File          Line   Message
                     === Build file: "no target" in "no project" (compiler: unknown) ===
                     === Build finished: 0 error(s), 0 warning(s) (0 minute(s), 0 second(s)) ===
```

Insert of Vector

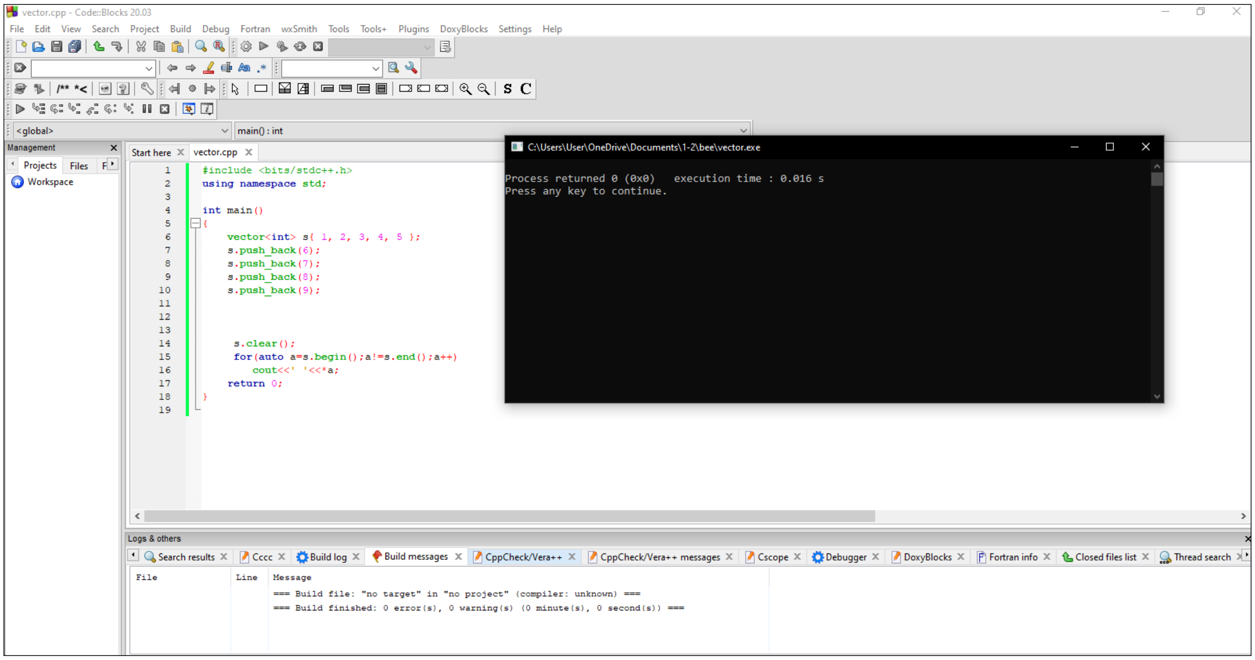


```cpp
#include <bits/stdc++.h>
using namespace std;

int main()
{
    vector<int> s{ 1, 2, 3, 4, 5 };

    cout << "Original vector :\n";
    for (auto a:s)
    cout<<a<<" ";
    cout << "\n";


    s.insert(s.begin() + 2, 227);

    cout << "Vector after inserting my roll at position 2 :\n";
    for (auto a : s)
        cout << a << " ";
    cout << "\n";

    return 0;
}
```

```
Original vector :
1 2 3 4 5
Vector after inserting my roll at position 2 :
1 2 227 3 4 5

Process returned 0 (0x0)   execution time : 0.016 s
Press any key to continue.
```

```
File          Line   Message
                     === Build file: "no target" in "no project" (compiler: unknown) ===
                     === Build finished: 0 error(s), 0 warning(s) (0 minute(s), 0 second(s)) ===
```

Clear of Vector

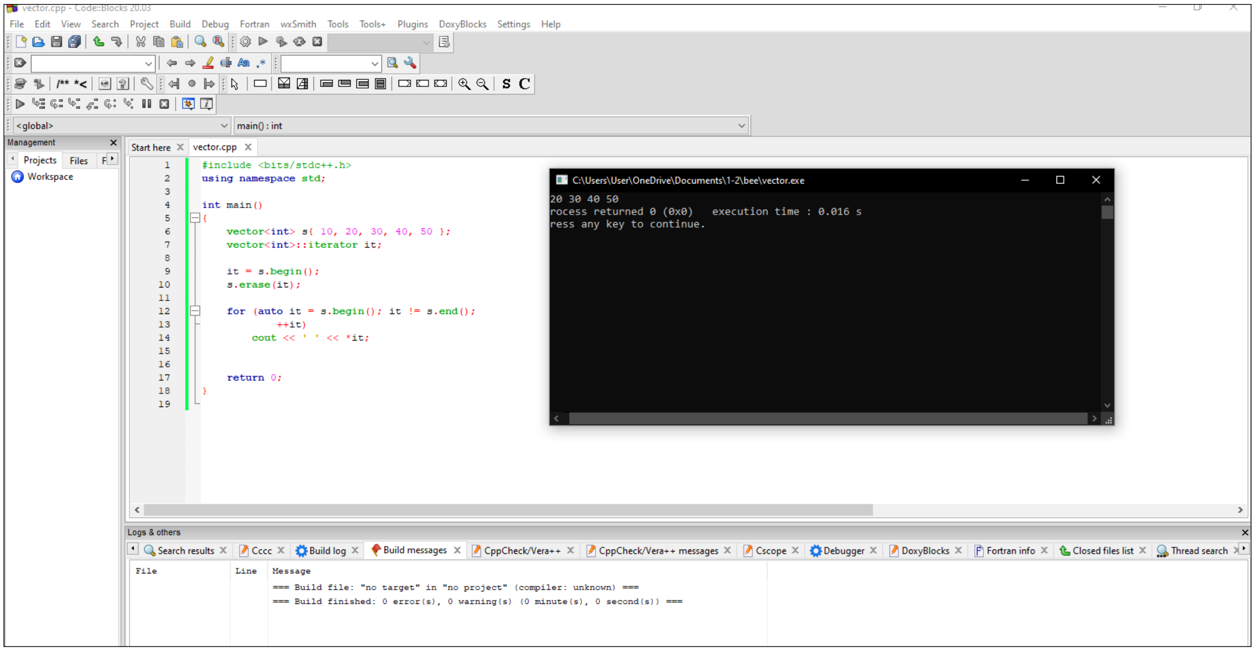


```cpp
#include <bits/stdc++.h>
using namespace std;

int main()
{
    vector<int> s{ 1, 2, 3, 4, 5 };
    s.push_back(6);
    s.push_back(7);
    s.push_back(8);
    s.push_back(9);



     s.clear();
     for(auto a=s.begin();a!=s.end();a++)
        cout<<' '<<*a;
    return 0;
}
```

```

Process returned 0 (0x0)   execution time : 0.016 s
Press any key to continue.
```

```
File          Line   Message
                     === Build file: "no target" in "no project" (compiler: unknown) ===
                     === Build finished: 0 error(s), 0 warning(s) (0 minute(s), 0 second(s)) ===
```

Erase of Vector



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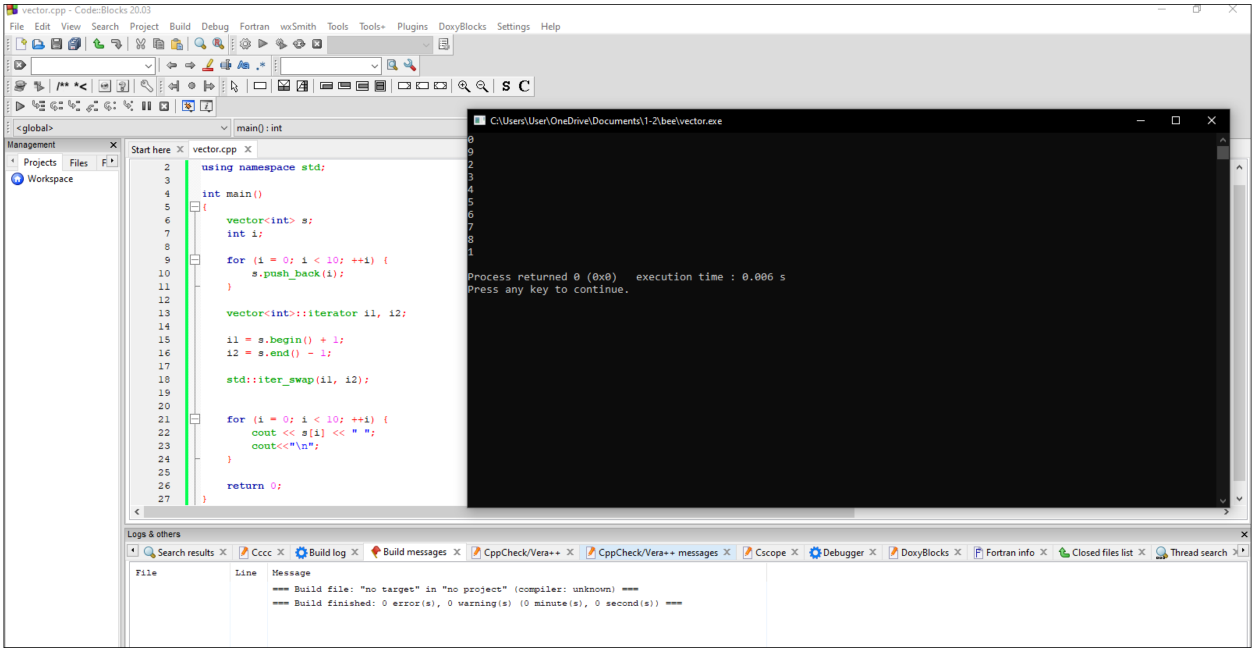
```cpp
#include <bits/stdc++.h>
using namespace std;

int main()
{
    vector<int> s{ 10, 20, 30, 40, 50 };
    vector<int>::iterator it;

    it = s.begin();
    s.erase(it);

    for (auto it = s.begin(); it != s.end();
        ++it)
        cout << ' ' << *it;


    return 0;
}
```

```
20 30 40 50
rocess returned 0 (0x0)   execution time : 0.016 s
ress any key to continue.
```

```
File          Line   Message
                     === Build file: "no target" in "no project" (compiler: unknown) ===
                     === Build finished: 0 error(s), 0 warning(s) (0 minute(s), 0 second(s)) ===
```

Swap of Vector



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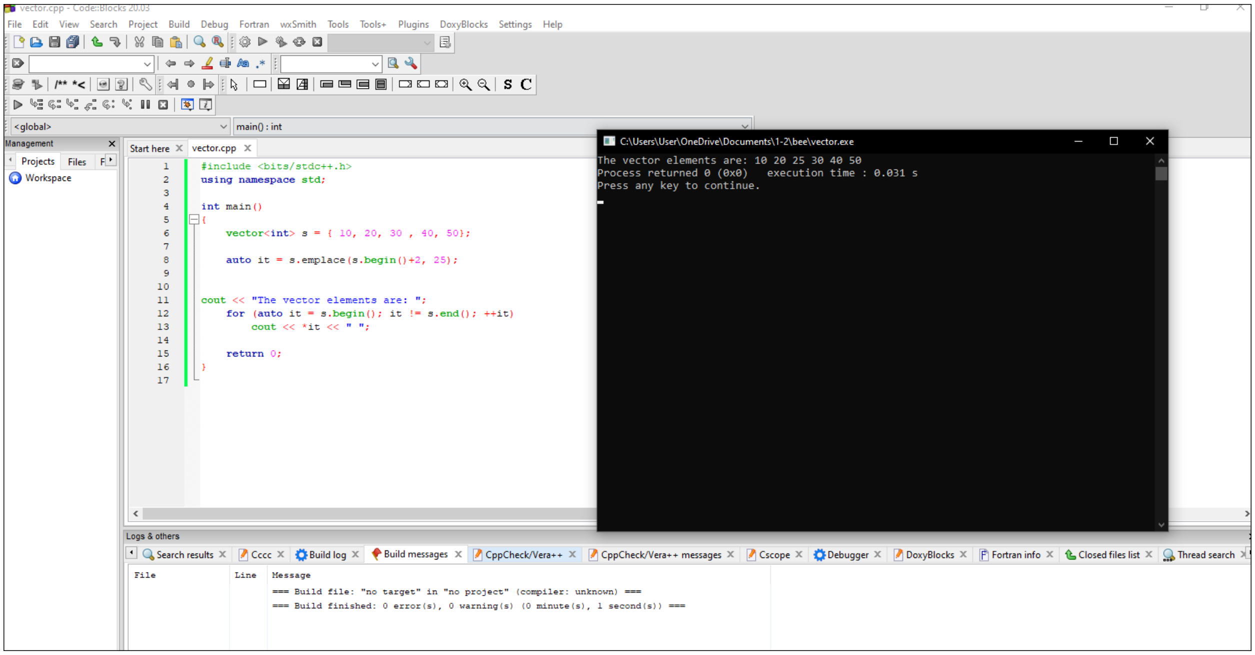
```cpp
using namespace std;

int main()
{
    vector<int> s;
    int i;

    for (i = 0; i < 10; ++i) {
        s.push_back(i);
    }

    vector<int>::iterator i1, i2;

    i1 = s.begin() + 1;
    i2 = s.end() - 1;

    std::iter_swap(i1, i2);


    for (i = 0; i < 10; ++i) {
        cout << s[i] << " ";
        cout<<"\n";
    }

    return 0;
}
```

```
0
9
2
3
4
5
6
7
8
1

Process returned 0 (0x0)   execution time : 0.006 s
Press any key to continue.
```

```
File          Line   Message
                     === Build file: "no target" in "no project" (compiler: unknown) ===
                     === Build finished: 0 error(s), 0 warning(s) (0 minute(s), 0 second(s)) ===
```

Vector Emplace

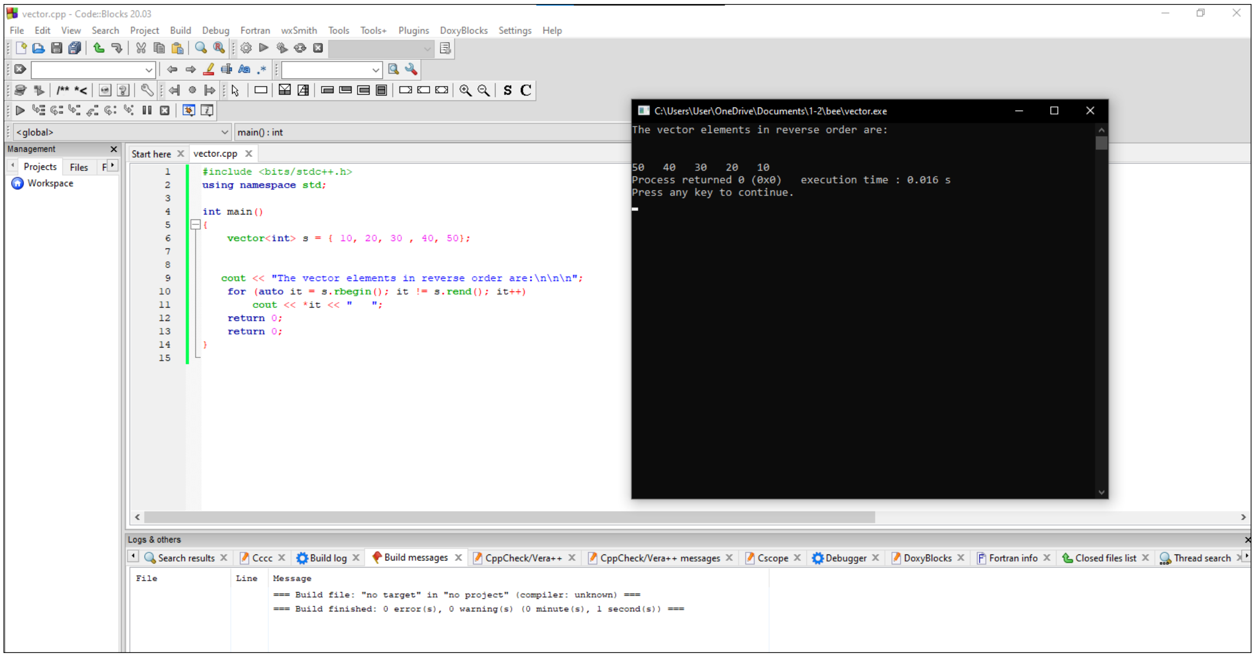


```cpp
#include <bits/stdc++.h>
using namespace std;

int main()
{
    vector<int> s = { 10, 20, 30 , 40, 50};

    auto it = s.emplace(s.begin()+2, 25);


cout << "The vector elements are: ";
    for (auto it = s.begin(); it != s.end(); ++it)
        cout << *it << " ";

    return 0;
}

```

```
The vector elements are: 10 20 25 30 40 50
Process returned 0 (0x0)   execution time : 0.031 s
Press any key to continue.
```

```
File        Line    Message
                    === Build file: "no target" in "no project" (compiler: unknown) ===
                    === Build finished: 0 error(s), 0 warning(s) (0 minute(s), 1 second(s)) ===
```

Vector R Begin



```cpp
#include <bits/stdc++.h>
using namespace std;

int main()
{
    vector<int> s = { 10, 20, 30 , 40, 50};


   cout << "The vector elements in reverse order are:\n\n\n";
    for (auto it = s.rbegin(); it != s.rend(); it++)
        cout << *it << "   ";
    return 0;
    return 0;
}

```

```
The vector elements in reverse order are:


50   40   30   20   10
Process returned 0 (0x0)   execution time : 0.016 s
Press any key to continue.
```

```
File        Line    Message
                    === Build file: "no target" in "no project" (compiler: unknown) ===
                    === Build finished: 0 error(s), 0 warning(s) (0 minute(s), 1 second(s)) ===
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