

VECTOR

AIM:

To create a vector and perform rotation and reverse the vector.

ALGORITHM:

- Declare an integer vector and initialize it with elements.
- Read the number of positions k from the user.
- Right rotate the vector by k positions using rotate(begin, end-k, end).
- Display the elements of the vector after right rotation.
- Left rotate the vector by k positions using rotate(begin, begin+k, end).
- Display the elements of the vector after left rotation.
- Reverse the elements of the vector using reverse(begin, end).
- Display the reversed vector.

PROGRAM:

```
/*
 * Program to rotate elements of vector
 * Author   : MUTHUGANESH S
 * Date      : 05/2/2026
 * Filename: Vector.cpp
 * retval    : void
 */

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

// Function to display elements of vector
void Display(const vector<int>& vec) {
    for (int i = 0; i < vec.size(); i++) {
        cout << vec[i] << " ";
    }
    cout << endl<<endl;
}

int main() {

    vector<int> v{1, 2, 3, 4, 5};
    int k;
```

```

    cout<<"Enter number of positions to rotate: ";
    cin>>k;

    cout<<"Right Rotate by "<<k<<" positions: ";
    rotate(v.begin(), v.end()-k, v.end());

    Display(v);

    cout<<"Left Rotate by "<<k<<" positions: ";
    rotate(v.begin(), v.begin() + k, v.end());

    Display(v);

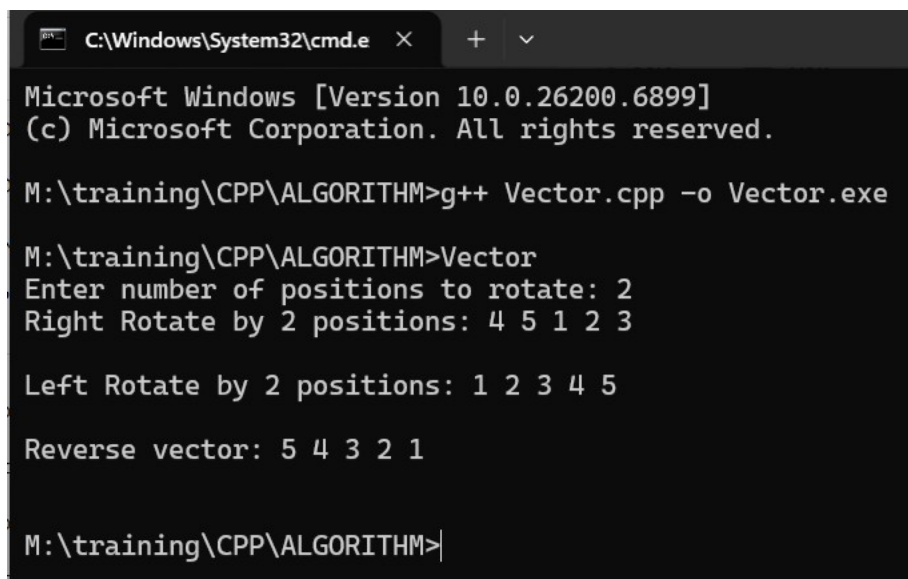
    cout<<"Reverse vector: ";
    reverse(v.begin(), v.end());

    Display(v);

    return 0;
}

```

OUTPUT:



```

C:\Windows\System32\cmd.e
Microsoft Windows [Version 10.0.26200.6899]
(c) Microsoft Corporation. All rights reserved.

M:\training\CPP\ALGORITHM>g++ Vector.cpp -o Vector.exe

M:\training\CPP\ALGORITHM>Vector
Enter number of positions to rotate: 2
Right Rotate by 2 positions: 4 5 1 2 3

Left Rotate by 2 positions: 1 2 3 4 5

Reverse vector: 5 4 3 2 1

M:\training\CPP\ALGORITHM>

```