

Assignment No.: 11

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Batch : A-1

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Aim : Write a class template to represent a generic vector. Include member functions to perform following tasks

- To create a vector
 - To modify the value of given element
 - To multiply by scalar value.
 - To display vector.
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Input Code :

```
#include<iostream>
#include<stdio.h>
using namespace std;

class vector{
    int size;
    int *coord;
public:
    vector();
    void modify();
    void display();
    void multiply();
};

vector::vector(){
    cout<<"\n Enter Number of Co-ordinates : ";
    cin>>size;
    coord=new int[size];
    cout<<"\n Enter " << size << " Co-ordinates : \n";
    for(int i=0; i<size; i++) {
        cout<<" ";
        cin>>coord[i];
    }
}

void vector::modify() {
    cout<<endl<<"\n Enter " << size << " New Co-ordinates : \n";
    for(int i=0; i<size; i++)
    {
        cout<<" ";
        cin>>coord[i];
    }
}

void vector::multiply() {
    int num;
    cout<<endl<<"\n Enter Number to Multiply : ";
    cin>>num;
    for(int i=0; i<size; i++) {
```

```

        coord[i]=coord[i]*num;
    }
}
void vector::display() {
    cout<<"\n Vector : (";
    for(int i=0; i<size; i++) {
        cout<<coord[i];
        if(i!=size-1)
            cout<<",";
    }
    cout<<")";
}
int main() {
    vector v;
    v.display();
    v.modify();
    v.display();
    v.multiply();
    v.display();
    return 0;
}

```

Output Code :

Enter Number of Co-ordinates : 3

Enter 3 Co-ordinates :
22 55 88

Vector : (22,55,88)

Enter 3 New Co-ordinates :
11 44 77

Vector : (11,44,77)

Enter Number to Multiply : 4

Vector : (44,176,308)