Q1. Declare a vector with Initialization and print the elements.

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

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

   for(int x : v) cout<<x<<" ";


}
```

Q2. Declare a vector without initialization, insert some elements and print

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

int main()
{
   vector <int> v;

   v.push_back(10);
   v.push_back(20);
   v.push_back(30);
   v.push_back(40);

   for(int x : v) cout<<x<<" ";
}
```

Q3. Write a function to print the element of a vector and take input from the user.

```
#include <iostream>
#include <vector>

using namespace std;

int main()
{
   vector <int> v;
   int x = 0;

   cout<<"Enter elements"<<endl<<endl;
   for(int i = 0; i < 5; i++)
   {
      cout<<i<<") ";
      cin>>x;
      v.push_back(x);
   }

   cout<<endl<<endl;

   for(int x : v) cout<<x<<" ";

}
```

Q4. Write a program to Copy one vector’s elements to another vector.

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

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

   vector <int> v2 = v;

   for(int x : v2) cout<<x<<" ";

}
```

Q5. Find largest and smallest elements in a vector

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

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

   int small = 0, large = 0;

   for(int i = 0, j = i + 1; j < v.size(); j++)
   {

      if(v[i] < v[j])
      {
         small = v[i];
      }
      else
      {
         small = v[j];
         i = j;
      }
   }
   cout<<"smallest element = "<<small<<endl;

   for(int i = 0, j = i + 1; j < v.size(); j++)
   {

      if(v[i] > v[j])
      {
         large = v[i];
      }
      else
      {
         large = v[j];
         i = j;
      }
   }
   cout<<"largest element = "<<large;
}
```

Q6. Write a program to reverse vector elements

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

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

   vector <int>::reverse_iterator rit = v.rbegin();

   while(rit != v.rend())
   {
      cout<<*rit<<" ";
      rit ++;
   }
}
```

Q7. Write a program to find sum of vector elements

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

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

   int sum = 0;

   for(int i = 0; i < v.size(); i++)
   {
      sum = sum + v[i];
   }

   cout<<"sum = "<<sum;
}
```

Q8. Write a program to find common elements between two vectors.

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

int main()
{
   vector <int> v1 = {50, 10, 40, 30, 20};
   vector <int> v2 = {90, 70, 30, 80, 10};
   vector <int> common;

   for(int i = 0; i < v1.size(); i++)
   {
      for(int j = 0; j < v2.size(); j++)
      {
         if(v1[i] == v2[j])
         {
            common.push_back(v2[j]);
         }
      }
   }

   cout<<"common element = ";
   for(int x : common) cout<<x<<" ";
}
```

Q9. Write a program to Push and print elements in a float vector

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

int main()
{
   vector <float> v;

   v.push_back(10.2);
   v.push_back(15.5);
   v.push_back(20.78);

   for(float x : v) cout<<x<<endl;
}
```

Q10. Write a program to check whether an element exists in a vector or not.

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

int main()
{
   vector <int> v = {10, 20, 30, 40, 50, 60, 70};

   int ch = 0, flag = 1;

   cout<<"Enter element to find = ";
   cin>>ch;

   for(int i = 0; i < v.size(); i++)
   {
      if(ch == v[i])
      {
         cout<<"Element found";
         flag = 0;
         break;
      }
      else
      {
         continue;
      }
   }

   if(flag)
   {
      cout<<"Element not found";
   }
}
```