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//Vector Sequence Container
#include<iostream>
#include<conio.h>
#include<vector>
using namespace std;
void display(vector <int> &); // display function prototype
int main()
{
      vector <int> v;         // integer vector created

      cout<<"\n\nInitial size() = "<<v.size();  // gives no of elements
      cout<<"\n\nInitial capacity() = "<<v.capacity(); // capacity returns no
elements that vector can store b4 that vector needs to dynamically resize itself to
accommodate more elements

      v.push_back(10);  // pushing the element at back of vector
      v.push_back(20);
      v.push_back(30);
      v.push_back(40);
      v.push_back(50);

      cout<<"\n\nAfter push_back() size() = "<<v.size();
      cout<<"\n\nAfter push_back() capacity() = "<<v.capacity();

      cout<<"\n\nDisplay vector elements after push_back() :";
      display(v);

      cout<<"\n\nFrist element of vector = "<<v.front();
      cout<<"\n\nLast element of vector = "<<v.back();

      //Inserting elements in vector using iterator
      vector<int>::iterator itr=v.begin();     //here itr is pointing to 0th
element of v
      itr = itr + 5;    // itr made to point 4th element;
      v.insert(itr,60); // insert 40 as 4th element of v


      cout<<"\n\nDisplay vector elements after insertion :";
      display(v);

      //pop_back() function to delete last element
      v.pop_back();

      cout<<"\n\nDisplay vector elements after pop_back() :";
      display(v);

      // erase(delete) vector elements
      v.erase(v.begin()+2,v.begin()+4);   // erase(2,4) = deletes 30 & 40 but not
50

      cout<<"\n\nDisplay vector elements after erase() :";
      display(v);

      //resizing vector
      v.resize(10);
      cout<<"\n\nAfter resize() vector size = "<<v.size();

      //using clear function
      v.clear();
      cout<<"\n\nAfter clear() function :";
      display(v);

      cout<<"\n\nIs vector empty = "<<v.empty();

      getch();
      return 0;
}
void display(vector <int> & v)
{
      for(int i=0;i<v.size();i++)
      {
            cout<<" "<<v.at(i);     // at() prints vector element at each reference
index
      }
}
```