Vector_Programs.

Adding Items to a Vector

```
V.push_back(Type element)

Adds an element to the end of the vector, increasing its size by 1.
The Type of the argument is the element type used when declaring the
vector.

vector<int> V; // V starts out empty
int size = V.size(); // size == 0
V.push_back(10); // Insert 10 onto the end of V
size = V.size(); // size == 1
V.push_back(20); // Insert 20 onto the end of V
size = V.size(); // size == 2
int Foo = V[0] + V[1];
```

Inserting elements in the middle of the vector

```
#include<iostream>
#include<string>
#include<vector>
using namespace std;
int main()
{
	vector<int> test1;
	test1.push_back(1);
	test1.push_back(2);
	test1.push_back(3);
	test1.insert(test1.begin() + 1, 20);
	for (int i = 0; i < test1.size(); i++)
	{
		cout << test1[i];
	}
	system("pause");
	return 0;
}
```

Printing all elements inside a vector

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

int main()
{
	vector<int> a(9);
	a[0] = 22;
	a[1] = 23;
	for (int i = 0; i < a.size(); i++)
	{
		cout << a[i];
	}
	system("pause");
	return 0;
```

```
}
```

Copying two vectors using constructors

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

	using namespace std;
	int main()
	{
		vector<int> test1(3, 100);
		vector<int>test2(test1);
		for (int i = 0; i < test1.size(); i++)
		{
			cout << test2[i];
		}
		system("pause");
		return 0;
	}
```

Copying one vector to another

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

	using namespace std;
	int main()
	{
		vector<int> test1(3, 100);
		vector<int>test2;
		test2 = test1;
		for (int i = 0; i < test2.size(); i++)
		{
			cout << test2[i];
		}

		system("pause");
		return 0;}
```

Comparing two vectors

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

	using namespace std;
	int main()
	{
		vector<int> test1(3, 100);
		vector<int>test2(test1);
		if (test1 == test2)
		{
			cout << "Both the vectors are equal";
		}
		else
		{
			cout << "Both Vectors are not equal";
		}
		system("pause");
		return 0;
```

```
}
```

Removing elements from a vector

```
#include<iostream>
#include<string>
#include<vector>
using namespace std;
int main()
{
	vector<int> test1;
	test1.push_back(1);
	test1.push_back(2);
	test1.push_back(3);
	//deleting element 2
	test1.erase(test1.begin() + 1);
	for (int i = 0; i < test1.size(); i++)
	{
		cout << test1[i];
	}
	system("pause");
	return 0;
}
```

Removing elements using pop back

```
#include<iostream>
#include<string>
#include<vector>
using namespace std;
int main()
{
	vector<int> test1;
	test1.push_back(1);
	test1.push_back(2);
	test1.push_back(3);
	//deleting element 2
	test1.erase(test1.begin() + 1);
	// removing element 3 using pop up
	test1.pop_back();
	for (int i = 0; i < test1.size(); i++)
	{
		cout << test1[i];
	}
	system("pause");
	return 0;
}
```