LISTs in C++

Creating an integer list and printing the size and all elements inside the list

```
#include<iostream>
	#include<string>
	#include<list>
	using namespace std;
	int main()
	{
		list<int> integer_list;
		integer_list.push_front(1);
		integer_list.push_front(2);
		integer_list.push_back(4);
		integer_list.push_back(3);
		list<int>::iterator itr;
		cout << integer_list.size();
		for (itr = integer_list.begin(); itr != integer_list.end(); itr++)
		{
			cout << *itr;
		}
		system("pause");
		return 0;
	}
```

Inserting an element in to the list

```
	#include<iostream>
	#include<string>
	#include<list>

	using namespace std;
	int main()
	{
		list<int> integer_list;
		integer_list.push_front(1);
		integer_list.push_front(2);
		integer_list.push_back(4);
		integer_list.push_back(3);
		list<int>::iterator itr;
		itr=integer_list.begin();
		integer_list.insert(++itr, 5);
		for (itr = integer_list.begin(); itr != integer_list.end(); itr++)
		{
			cout << *itr;
		}

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

Inserting in the middle of the list

```
#include<iostream>
	#include<string>
	#include<list>
	#include<algorithm>
	#include<numeric>
	using namespace std;
	int main()
	{
		list<int> test;
```

```
	test.push_front(1);
	test.push_front(2);
	test.push_front(3);
	list<int>::iterator itr;
	itr = test.begin();

	for (itr = test.begin(); itr != test.end(); itr++)
	{
		if (*itr == 2)
		{
			test.insert(itr, 4);
		}
	}

	for (itr = test.begin(); itr != test.end(); itr++)
	{
		cout << *itr;
	}
	system("pause");
	return 0;
}
```

Removing Elements from the list using pop front and pop back

```
#include<iostream>
	#include<string>
	#include<list>

	using namespace std;
	int main()
	{
		list<int> integer_list;
		integer_list.push_front(1);
		integer_list.push_front(2);
		integer_list.push_back(4);
		integer_list.push_back(3);
		list<int>::iterator itr;
		//popping one element from the front
		integer_list.pop_front();
		//popping one element from the end
		integer_list.pop_back();
		//printing all elements inside the list

		for (itr = integer_list.begin(); itr != integer_list.end(); itr++)
		{
			cout << *itr;
		}

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

Checking if the list is empty ,reversing the list before printing

```
	#include<iostream>
	#include<string>
	#include<list>
	using namespace std;
	int main()
	{
		list<int> integer_list;
```

```
	integer_list.push_front(1);
	integer_list.push_front(2);
	integer_list.push_back(4);
	integer_list.push_back(3);
	list<int>::iterator itr;
	//checking if the list is empty
	if (integer_list.empty())
	{
		cout << "The list is empty";
	}
	else
	{
		cout << "The list is not empty";
	}
	//printing all elements inside the list
	//reversing the list
	reverse(integer_list.begin(), integer_list.end());
	for (itr = integer_list.begin(); itr != integer_list.end(); itr++)
	{
		cout << *itr;
	}

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