

CSCI251/CSCI851      Autumn-2020  
Advanced Programming      **(LT12)**

Lecture Tutorial 12

# From the Lab:

- What happened with the sorting? One vs Two...
  - Same elements provided in a different order give a different result.

```
bool compint(const int &a, const int &b){  
    return a-3 > b+3;}
```

- `compint(5,3) → return 2 > 6 → False`
- `compint(3,5) → return 0 > 8 → False`
- Bogosort 😊

## ■ Containers (2.2):

– Use need ...

```
#include <vector>
```

```
#include <deque>
```

```
#include <list>
```

– And then ...

```
vector<Thing> vThing;
```

```
deque<Thing> dThing;
```

```
list<Thing> lThing;
```

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

# Palindrome testing ...

```
int main()
{
```

```
    vector<char> v;
    char c;
```

```
    cout << "Enter:";
    while((c=cin.get()) != '\n') { v.push_back(c); }
    cout << "Number of chars entered " << v.size() << endl;
```

```
    vector<char>::iterator f = v.begin();
    vector<char>::reverse_iterator r = v.rbegin();
```

```
    bool palin=true;
    while(f < v.end()) {
        if ( *f != *r){
            palin = false;
            break;
        }
        r++;
        f++;
    }
```

```
    stcout << "It's" << ((palin)?" ":" not ") << "a palindrome!" << endl;
```

```
}
```

Comment out using ...

Try auto...

See the next slide ...

```

#include <iostream>
#include <vector>

int main()
{
    std::vector<char> v;
    char c;

    std::cout << "Enter: ";
    while ((c=std::cin.get()) != '\n') {
        v.push_back(c);
    }

    std::cout << "Number of chars entered " << v.size() << std::endl;

    auto f = v.begin();
    auto r = v.rbegin();

    bool palin=true;
    while (f < v.end()) {
        while (*f == ' ')
            f++;
        while (*r == ' ')
            r++;
        if ( *f != *r){
            palin = false;
            break;
        }
        r++;
        f++;
    }

    std::cout << "It's" << ((palin)?" ":" not ") << "a palindrome!" << std::endl;

    return 0;
}

```