# Vector

If you started programming in Java and then moved to c++. You would think an array would be the same. But in c++ arrays are mainly static due to their poor maintainability features. Instead if you use a vector because they are basically the same as an array in other languages expect they have a different name.

## Advantages

* Storage is handled automatically
* Able to add remove elements easily
* Don’t need to be reallocated when new elements are added

## Disadvantages

* Can hog memory if you need to keep a lot of data

# Forward\_list

A forward is a container that allows fast data migration anywhere within the container. This provides more space due to removing bidirectional iteration

## Advantages

* Fast
* Large storage capacity
* If you only need a single dimensional array

## Disadvantage

* Unable to become multi-dimensional
* Not easy to capture data in the middle.

# List

A list is a well balance container designed for constant data migration throughout the whole container

## Advantages

* Multi-dimensional
* Ability to constantly update

## Disadvantages

* Slow
* Less space compared to a forward list

# Deque

A deque is a sequence container that allows for fast data migration.

## Advantages

* Fast adding and deleting at the beginning and end of the que
* Adding and deleting doesn’t affect pointers
* Automatically reallocates the size of the que when adding or deleting of elements
* Doesn’t copy existing elements to a new location

## Disadvantages

* Uses a sequence of fix array sizes
* Only useful if you need to edit the start or the end of the que

# The Verdict

I decided to go with vectors because they are easier to set up and maintain compared to the others. A deque would have been the next once I would have used but because it is used similar to a vector because they are a fixed array per element, it makes it difficult to use effectively. I don’t believe a list or a forward\_list would be affective because you can’t access element in the middle efficiently.