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.