

DSA Tutorial 6

Topics covered so far:

- Arrays
- Linked Lists (Single, Double, Circular)
- Stacks
- Queues
- Searching
- Sorting

Important features of STL:

- Vectors -

Some important functions of vectors-

- push_back()
- pop_back()
- size()
- clear()
- resize()
- empty()

Sample code - <http://p.ip.fi/4Zwn>

- Sets and multisets -

The main difference between sets and multisets is that you can store multiple elements that can have the same values.

Important functions of sets and multisets-

- insert()
- begin()
- end()
- size()
- find()
- erase()
- empty()

- Maps and multimaps -
Same difference as sets and multisets. The difference between maps and sets is that you can only store elements in a set whereas you can map one element to another in a map.
Functions for maps are the same as for sets.

Sample code - <http://p.ip.fi/1MZh>

Some practice problems:

Stacks:

[Largest Rectangular Area in a Histogram](#)

Code - <http://p.ip.fi/IBog>

Binary Search

[Aggressive Cows](#)

Code - <http://p.ip.fi/OI5I>

Sorting:

[Pair of Topics](#)

Code - <http://p.ip.fi/hjzR>

Some more problems:

- [Snake Eating](#)
- [Stacks](#)
- [Gas Station](#)
- [Rotate a Linked List](#)
- [Not a Triangle](#)
- Find precise square root of number upto precision 10^{-6}
- [Vanya and Lanterns](#)