

Competitive Programming Notebook

- Contest Notes -

2024 Revision 0.0

Vid Furlan / [vidfurlan](https://vidfurlan.com)

Index

1.Introduction

This is the introduction section. You can write an overview of your competitive programming notes here.

2.STL - Standard Template Library

2.1.Vector

Vector is a dynamic array. It is similar to an array, but with the ability to resize itself automatically when it grows or shrinks.

2.1.1 General Syntax:

```
// 1D vector
vector<data_type> v1(size, value);

// 2D vector
vector<vector<data_type>> v2(row, vector<data_type>(col, value));

// Insertion O(1)
v.push_back(value);

// Deletion O(1)
v.pop_back();
```

2.1.2 Useful Functions:

```
// Sort vector in ascending order O(nlogn)
sort(v.begin(), v.end());

// Sort vector in descending order O(nlogn)
sort(v.rbegin(), v.rend());

// Reverse vector O(n)
reverse(v.begin(), v.end());
```

2.2.Stack

2.3.Queue

2.4.Deque

2.5.Priority Queue

2.6.Set and Multiset

2.7.Map and Multimap