

Competitive Programming Training

#01 - Warm up

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Units

1. Introduction
2. Useful resources
3. Pick your programming language
4. Goals
5. Warm up

Introduction

What/Why Competitive Programming ?

Hardware + Software = Computer Science

— Unknown

Algorithms + Data Structures = Program

— Niklaus Wirth

Useful resources

Need-to-know websites

Beginning

 hackerearth

The best

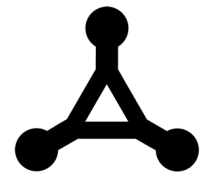
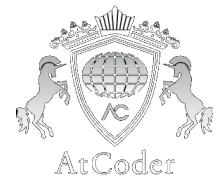
 CODEFORCES^β

 HackerRank

Hard

 [topcoder][™]

New



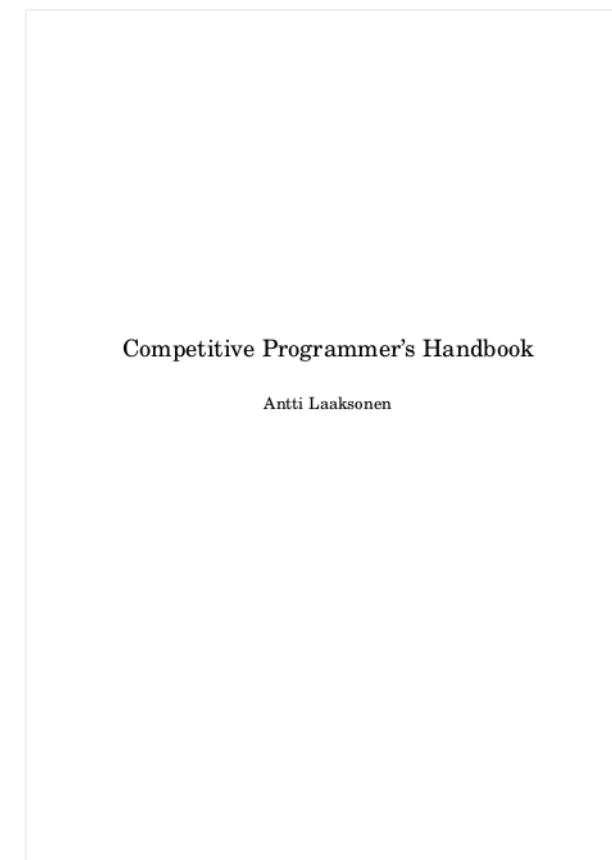
Need-to-know books

Competitive Programming 3



[Download link](#)

Competitive Programmer's Handbook



[Download link](#)

**Pick your programming
language**

Java vs C++

C++

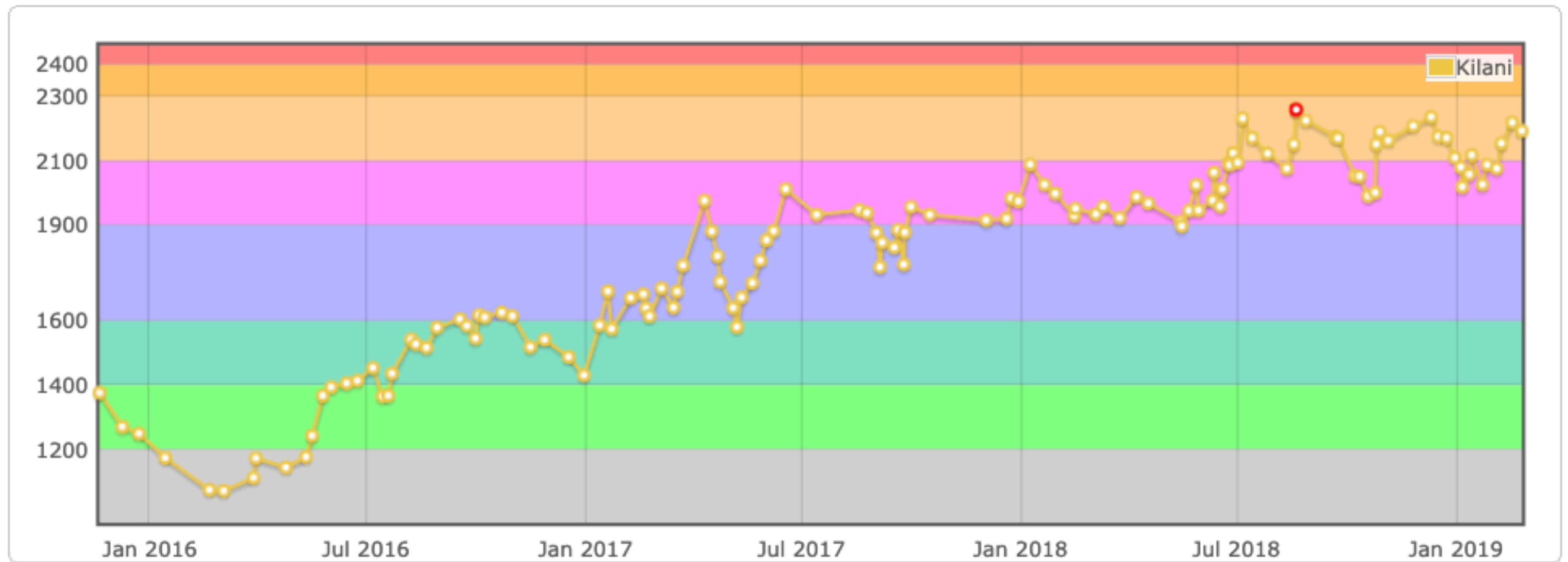
- Runs faster (at least 2x)
- Shorter code
- Almost all codes/books written in c++
- Vast standard library
- Does not force OOP
-

Java

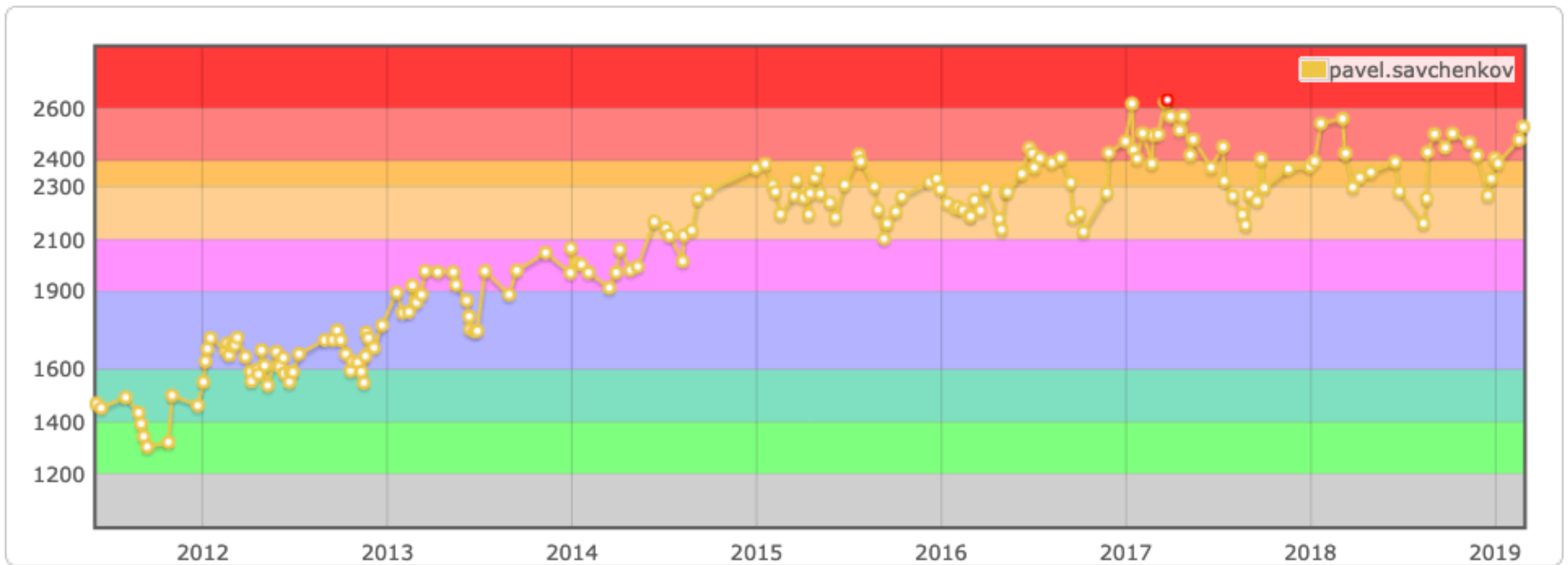
- Very good built in libraries (String, BigInteger...)
- Tends to be readable
- I/O
- Good documentation
-

Goals

Learning curve



Learning curve



Competitions

National
(onsite)

Girls Code

JNJD - INPT

CODE IT - EHTP

MCPC

International
(onsite)

ACPC

ICPC

International
(online)

Google CJ

Warm up

Basic algorithms

1. Complete search
2. Binary search
3. Ternary search
4. Selection sort
5. Merge sort
6. Quick sort

Basic data structures

1. Stack - Bracket matching
2. Queue - BFS
3. Priority Queue - Dijkstra
4. Map - Decrypting a text
5. Set - Lower/Upper bounds

THANK YOU

Questions | Remarks ?