Practice for a Programming Contest

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Outline

- Get Your Problems Solved
- Build Your Own Swiss Army Knife
- Know Better Your Swiss Army Knife: clean, simple, the tool you want to take everywhere.
Get Your Problems Solved

● Choose the best problem
  ○ Read problems carefully
  ○ Monitor score-list

● Solve the problems
  ○ Develop a team-strategy for the competition
  ○ Don't waste your time on a misunderstood problems
  ○ schedule for your resources
  ○ Make decisions on time
Get Your Problems Solved

- Oops, It didn't work!
  - Again, make decisions on time.
    - Especially hard ones!
  - Build an efficient protocol for fixing the problem
    - Detect the bug efficiently
      - Bugs in the algorithm
      - Bugs in the implementation
    - Solve the bug efficiently
Get Your Problems Solved

- Some links
  - http://goo.gl/KGSJA
  - http://www.acmsolver.org/
  - http://uva.onlinejudge.org/
  - Art of Programming Contest
  - Topcoder and its tutorials
Build Your Own Swiss Army Knife

● Read the rules!
  ○ for example the official compiler for C++ is g++ 4.6.1, C++0x Mode

● Handling Input and Outputs
● Ready to implement Algorithms and data structures in your favorite language
Build Your Own Swiss Army Knife

- Read the **rules**!
  - personal experience
    - `std::vector<int<int>> myVec2D;`
Build Your Own Swiss Army Knife

Handling Input and Outputs

- **Save your precious time**
- Heavily depend on your programming language
- **Examples**
Build Your Own Swiss Army Knife

- Ready to implement Algorithms and data structures in your favorite language
  - Will it work?
  - Can I code it?
  - Can I code it? or Do I really need to code it?
  - Can I debug it?
  - Is it fast enough?
  - Is it cool? or does it look geeky?
Build Your Own Swiss Army Knife

- Ready to implement Algorithms and data structures in your favorite language
  - Array
    - std::vector
  - Linked list, stack, queue
    - std::list, std::stack, std::queue
  - Binary search tree
    - std::map, std::set, std::multimap, std::set
  - Priority queue
    - std::priority_queue (max-heap)
  - Hash table (C++11, you can use them)
Know Better Your Swiss Army Knife

- Swiss Army Knife: clean, simple, the tool you want to take everywhere.