Introduction to ACM-ICPC

The University of Hong Kong

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What is it?

ACM International Collegiate Programming Contest.
Official site: acm.baylor.edu

ACM

The Association for Computing Machinery (ACM) is an international
learned society for computing. It is the world's largest scientific and
educational computing society.

You will get free membership for each year you participate in ACM-ICPC.

Basic Rules

Solve about 10 programming tasks in 5 hours.

3 members per team.

1 computer.

How Are Teams Ranked

Teams are firstly ranked according to number of problems solved, then the total time used. Team can check ranks in *real time*.

Example

```
https://icpc.baylor.edu/scoreboard/
```

A Picture

Question Style

Problems are mathematically well defined, with data range and input / output specifications.

Example

http://poj.org/problem?id=1001

No GUI, network etc. are needed. They are also not allowed. For C++, all you need is iostream and STL.

How is it Judged?

Only source code is submitted and judged.

Data Based Judging

Your source code is compiled and run by the judge. The judge uses a preset dataset as input, and compare your output against the referenced answer.

Your solution is judged as correct (AC - Accepted) only if

It compiles successfully. Otherweise CE - Compile Error.

It does not crash. Otherwise RE - Runtime Error.

It uses limited amount of memory. Otherwise MLE - Memory Limit Exceeded.

It terminates within the time limit. Otherwise TLE - Time Limit Exceeded.

It outputs all the correct answers. Otherwise WA - Wrong Answer.

An Example

Example

http://poj.org/status

- CE - Compilation Error
- RE - Runtime Error
- TLE - Time Limit Exceeded
- MLE - Memory Limit Exceeded
- WA - Wrong Answer
- AC - Accepted

Contest Structure

University selection. We will select 3 teams this year.

Regional contests. Our main battle field.

World finals. Top teams in regional contests advances to world finals. About 120 teams in total around the world.

Skills Required

Coding. Implement whatever algorithm you have in mind.

Algorithm design. Knowledge of classical algorithms and algorithm design technique. For example, Dijkstra algorithm and dynamic programming.

Programming and debugging onsite under pressure.

Self-motivated

You join team because you are interested in ACM-ICPC, and you can leave at any point if you are not any more.

We assist you to participate in ACM-ICPC, including organizing training sessions.

However, we do not and cannot force you to do anything. You have to be **self-motivated**.

Your Benefits

Opportunity to participate in ACM-ICPC.

Good prize helps in finding a good job in industry.

Meet new friends that have the same interest with you.

Please contact team captain (Bintao SUN) regarding the competition and solving programming problems.

Contest Plan

We plan to select 3 teams.

Each team can go to at most 2 sites.

This year, we plan to go to regional contests hosted in Hong Kong (PolyU) and mainland (Qingdao and Urumuqi, or somewhere else, depending on contest time and our budget).

Selection Contest

Planned on September 13 (Wed), 7:00 pm - 9:30 pm.

    Individual contest.

    Rank by ICPC rules.

Contestants rank top 9 will be qualified to participate in regional contests. We form teams for you.

Practice Contest: September 11 (Mon), 7:00 pm - 8:00 pm.

Not mandatory.

Training Plan

This Semester

We organize practice contests regularly, aiming for this year's regional contests.

- Team contest. Follow ICPC rules.
- Problems selected from past regional contests.

If you are new, you can start from Part 1 in
`http://i.cs.hku.hk/~provinci/training.html`.

Next Semester

Mainly for beginners. We organize training sessions to talk about algorithmic techniques. For the past training materials:
`http://i.cs.hku.hk/~provinci/training.html`

Consultation

Send us an email if you have any questions about the contest, both technical and non-technical.

Contact Information

Assistant: Chenzi ZHANG, czzhang@cs.hku.hk

Team Captain: Bintao SUN, btsun@cs.hku.hk.
Appoint with us if you need face to face consultation.

Any Questions?