

# Programming Midterm Preview

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CSCI2100A Data Structures

# Time & Venue

- Time: **March 31<sup>st</sup>**, Friday, 6:00 p.m. - 9:00 p.m.
- Venue: **SHB 924 & 904**
- Please arrive the venue **before 5:30 p.m.** We will have a **warming-up session** from 5:30 p.m. - 6:00 p.m.
- Every student is assigned to a seat with a paper of user account info.
- Can bring any printed materials
- Scope: before and include hashing

# Instructions I

1. The programming midterm is an open-book and open-notes examination. You may bring what you can carry on printed (hard copy) materials. You MUST not take anything that can record program code electronically to the examination venue. You will not need a calculator for any calculation.
2. The operation system will be Ubuntu. The computer configuration will have these basic editors: vi/vim, emacs, gedit, and nano. This system includes GDB for debugging.
3. You can use all the functions provided by standard C library as long as you've included the corresponding header file.
4. The examination will begin when the Chief TA starts the clock and will end when the Chief TA stops the clock, which is usually three hours after the starting time including any missing time due to technical or other difficulties.

# Instructions II

5. The time limit for each problem is 1 second. The CPU can execute around  $10^9$  operations in 1 second.
6. You are suggested to work on Problem A first and then others afterwards. They are in increasing difficulties from the perspective of algorithm as judged by the instructors.
7. You MUST complete at least one problem in order not to fail the course.
8. Anyone who attempts to spam the server either through excessive submissions, allocating large amount of unnecessary memory, etc. will be penalized severely.
9. Please switch your mobile phones to silent mode and place it under your seat, you are not allowed to use them during the exam.
10. If you want to go to the bathroom, please ask the TAs for permission first.
11. If you leave early from the examination without informing the TAs, you will not be able to come back to the examination.

# Environment

- The operation system will be Ubuntu Linux 12.04 LTS, with **GUI**
- And the computer configuration will have these basic editors:
  - Vi/VIM
  - Emacs
  - Gedit (with GUI)
  - Nano
- How to debug?
  - Compile your source code using gcc, check Tutorial notes
  - Gcc (source file) -o (object file) ./(object file)
  - Or use gdb, check Tutorial notes 7

# Submit Tool

- We will use a GUI base tool to help to submit your program — — [PC^2](#) (ACM-ICPC official tools)
- It is **simple** and **robust**.
- All things can be done by just several clicks.

# login to PC^2

PC^2 Login

California State University, Sacramento  
Programming Contest Control System



SACRAMENTO  
STATE

Name

Password

PC^2 version 9



acm International Collegiate Programming Contest IBM event sponsor

# Submitting a Program to the Judges

- Clicking on the **SUBMIT RUN**
- Clicking in the **Problem** box will display a drop-down list of the contest problems
- Clicking in the **Language** box to choose Language (only **C** in our midterm)
- Click on the **Select** button, select your **source code** e.g. **A.c**, (only C in our midterm)

PC^2 Team TEAM 1 (Site 1) [STARTED] Build 1340

4:55 Exit

Submit Run View Runs Request Clarification View Clarifications Options

Problem  
Hello

Language  
Java

Main File  
C:\work\Hello.java Select

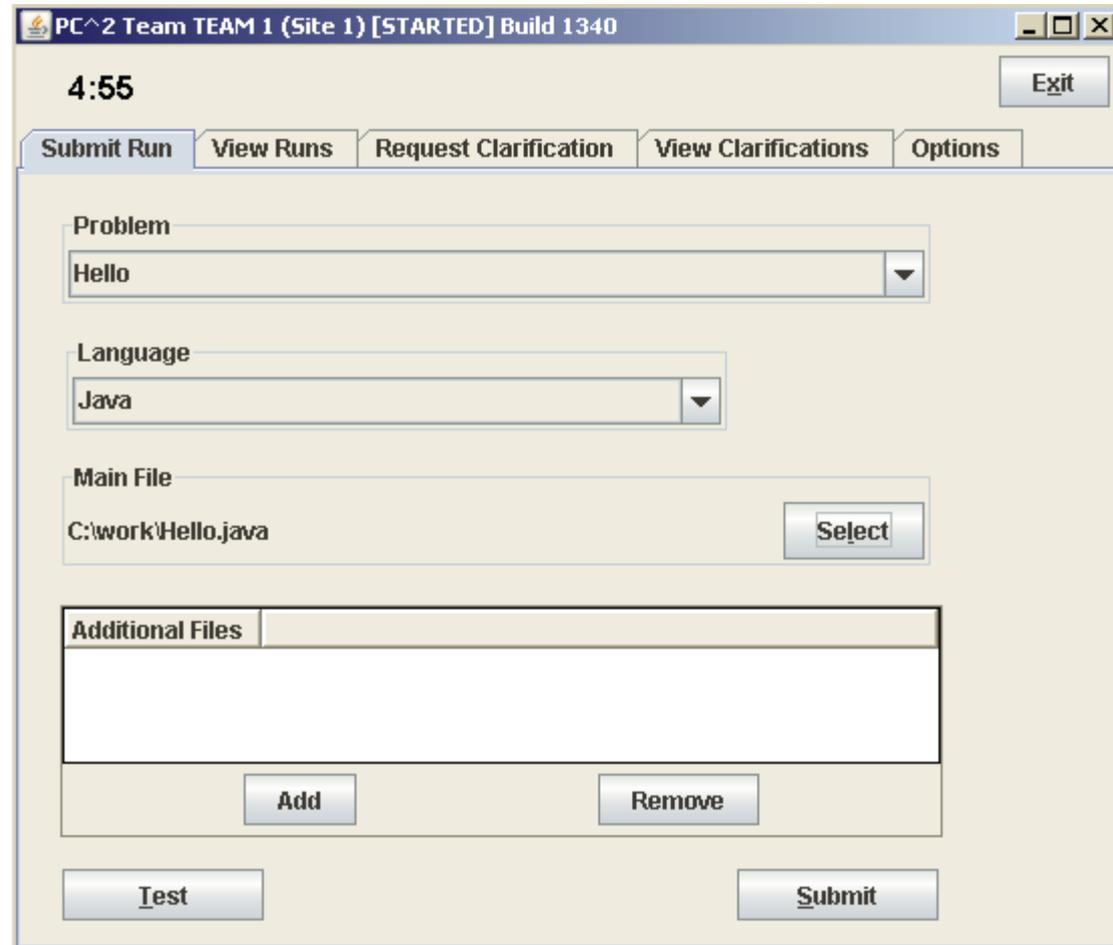
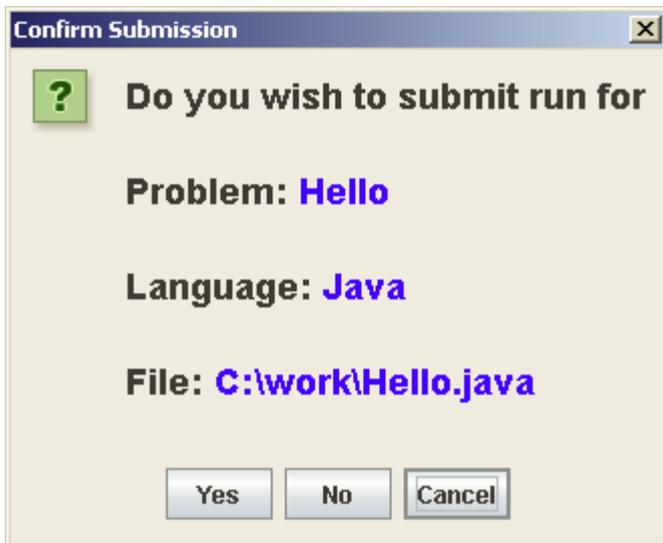
Additional Files

Add Remove

Test Submit

# Test Runs

- Click the **Test** button
- This will make a “**TEST RUN**”, meaning it will compile and execute your program *on your machine*.
- Once you are satisfied with the results of your Test Run, click the **Submit** button.



# Run Results

PC^2 Team TEAM 1 (Site 1) [STARTED] Build 1340

4:42 Exit

Submit Run View Runs Request Clarification View Clarifications Options

1

Site ▾	Run Id	Problem	Time	Status	Language	
Site 1	1	Hello	14	NEW	Java	

Run Judgement Received

 Judge's Response

Problem: Hello

Language: Java

Run Id: 20

Judge's Response: Yes

OK

# Ranking

- Number of problems solved
- Penalty

<u>Rank</u>	<u>Name</u>	<u>Solved</u>	<u>Time</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>G</u>	<u>Total att/solv</u>
1	team63	7	422	1/4	1/9	1/17	2/154	1/87	1/42	2/69	9/7
2	team65	6	586	1/4	7/152	1/35	1/117	1/65	1/93	2/--	14/6
3	team84	4	458	1/12	2/118	2/122	2/146	0/--	0/--	0/--	7/4
4	team103	3	143	1/22	1/37	1/84	0/--	1/--	0/--	0/--	4/3
5	team30	3	171	1/28	1/91	1/52	0/--	3/--	0/--	0/--	6/3
6	team17	3	350	2/69	2/86	1/155	0/--	0/--	0/--	0/--	5/3
7	team55	2	216	0/--	1/58	1/158	0/--	0/--	0/--	0/--	2/2

# Details of Penalty

- Penalty = **no. of minutes passed** + **no. of wrong submissions** x 20

Example:

- If you have 3 **incorrect submissions** for Q.2, and you get a **correct submission** at 6:32 p.m.
- Penalty for Q2 = **32** + **3** x 20
- Grade for each question depends on penalty
- If you don't have any correct submission, you will get 0 for that question

# Score

- Then we will compute the score based on the whole ranking.
- Those who cannot solve any problem will fail this course.

Problem Solved	Penalty	Score
7	422	100
6	495	97
6	582	96
6	586	95
5	237	93
5	239	93
5	316	92
5	325	92
5	347	91
5	383	91
5	467	90
4	194	85
4	219	84
4	239	84
4	290	84
4	327	83
4	336	83
4	340	83
4	355	82
4	379	82
4	458	81
4	494	81
4	544	80

Thanks & Good Luck!