Rules of the Helvetic Coding Contest 2011

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1 Introduction

1. The Helvetic Coding Contest wishes to provide a friendly environment where some of the best students in the Swiss educational system can compete at the highest level.

   The Contest environment should allow first and foremost the dissemination of knowledge, the improvement of individuals' skills and an opportunity for social networking among the participants.

2. True to this objective, the HC2 organizers vow to provide a competitive and fair environment.

2 Conditions of Participation

2.1 Team Eligibility

3. A team is eligible to participate in the contest provided that its members are students, predoctoral/PhD students, or interns currently enrolled in a Swiss educational institution (high school, HES, university, ETH or vocational school), or currently enrolled in a foreign educational institution but doing an internship, bachelor/master thesis in Switzerland. All members must be between the ages 14 and 28 (included). At least half the team must be made up of full-time students.

4. Each team may be composed of at least 2 and at most 3 members.

2.2 Special Eligibility

5. The Contest Judge may authorize a team to compete despite not fulfilling the eligibility criteria.

6. Such an authorization may only be delivered if it is justified by the Contest objectives enunciated in the introduction to the Contest rules (§ **??**).

2.3 Team Registration

7. Teams willing to take part in the Contest must register on the Helvetic Coding Contest website (http://hc2.ch) no later than the date indicated on the website or 5 days before the Contest, whichever is later.

8. Individuals without a team may also register. The judges will try to form balanced teams (to the best of their abilities) out of all individuals who are not yet in a team. The judge's decision on team composed in this manner is final.

2.4 Payment

9. A team ultimately confirms its participation by proceeding to the payment of its registration fees as indicated either by email or on the Contest website.

10. Teams who have not paid or who are unable to prove payment of their participation fee will not be admitted to the Contest.

3 Conduct of the Contest

3.1 Contest Judge

11. The Contest Judge is the sole authority regarding the Contest matters. He is allowed to nominate a deputy to act on his behalf should he be unable to preside over the Contest.

3.2 Dry Run

12. The Contest will be preceded by a dry run. The aim of the dry run is to get the contestants acquainted with the judging system.

13. The duration of the dry run is 30 minutes.

14. The judge may extend the duration of the dry run for up to 30 minutes at his discretion.

15. The ranking of the dry run will in no way influence the ranking of the contest.

16. All data on the team's computers will be erased after the dry run.

3.3 Duration

17. The Contest duration is 5 hours.

18. Under exceptional circumstances, including but not limited to contest-halting technical problems, the Contest Judge may extended the Contest duration for up to one hour.

3.4 Problems

19. The Contest features eight algorithmic problems.

20. All problems have been solved prior to the Contest in both Java and C/C++ by the problem author and at least one other member of staff.

3.5 Computing Environment

The Contest will take place on computers with the following specification.

21. Hardware:

CPU:	Intel Xeon E5520, 2.4 GHz
RAM:	3.5 GB or more
Screen:	1280 x 1024
Keyboard:	Standard Swiss-French keyboard (keyboard layout can be changed in the desktop environment)
Mouse:	Standard 2 button mouse with scroll wheel.

22. Software:

OS:	Linux (distribution: Debian live) x86
Desktop:	GNOME
Editors:	gvim, emacs, gedit, geany, eclipse
C compiler:	gcc 4.4.5_8
C++ compiler:	g++ 4.4.5_8
Java compiler:	OpenJDK 1.6.0_18

23. Teams may bring their own USB keyboard and mouse, however these have to be approved by the Contest Judge. Especially noisy hardware, hardware containing a storage space, or hardware which would give the team an unfair advantage over their competitors will not be allowed.

24. For reasons of fairness and security, root access and internet access are disabled on the machines.

25. The Contest Judge is allowed to monitor the participants' computers to prevent activities which are contrary to the spirit or the rules of the contest.

26. Furthermore, regular backups of your code will be made to the organizers' server.

3.6 Reference Material

27. During the Contest, the following documentation will be at the participants' disposal:

- C/C++ reference
- Java Platform SE 6.0 API Docs

28. The use of any other material, whether in digital or written form, is forbidden and will be considered an attempt to cheat. This also includes t-shits containing too much text (such as the "Linux Cheat Shirt").

3.7 Printing Service

29. The participants may request the organizers to print their source code in order to help with the debugging.

30. The printing will be delivered to the team's workstation as soon as possible.

31. The organizers reserve the right deny further prints to teams who have made excessive use of this service.

3.8 Unauthorized Behaviors

32. The participating teams should in no way try to gain an unfair advantage over their competitors.

33. Food and drinks are not allowed in the computer labs or the auditorium. Teams might be held liable for damages due to food and drinks in these areas. Teams will be requested to clean up any spills and crumbs should they bring food into the labs or the auditorium.

34. During the contest, problem statements, printouts and draft paper are not to leave the immediate vicinity of your assigned computer. It is absolutely forbidden to take these out of the computer lab. It is also forbidden to write anything related to the contest on your hand, clothes, the walls, or any other place where they might be seen by other teams while outside the lab.

35. During the contest, it is forbidden to talk about the problems outside the computer labs.

36. Collusion or sharing of any information about the problems between two teams is grounds for immediate disqualification of both teams.

37. The Contest Judge is authorized to disqualify a team with or without warning should he notice deliberate attempts at hindering the Contest progress or fairness.

38. The disqualifying behaviors include, but are not limited to, trying to crash the Contest server, trying to access the Judging System filesystem (fopen,fwrite,etc.) and forking to obtain a larger chunk of the Judging System computational resources or render them otherwise unavailable for the competing teams.

39. The use of forbidden functions (filesystem, multithreading) by a team will cause its immediate and irrevocable disqualification.

4 Scoring System

4.1 Partial Scoring

40. The Contest is scored partially. That is, each submission is tested against 10 input files.

41. Teams may re-submit a solution to the same problem. The new submission is tested only against input files which have not yet been solved correctly (previously accepted input files will not be rejudged).

42. Every input file that was solved correctly after the nth attempt gives one point and (n-1) penalties.

43. The final score for each problem is given by the total number of input files which have been solved. Ties are resolved by looking at the number of penalties. For more details on the ranking, please see § **??**.

4.2 Judging system

44. The Judging System is based on Mooshak 1.5.1.

45. The Juding System will run on machines which have the same hardware specifications as the contestants'.

46. You will only be allowed to use a limited amount of the total memory, as deemed appropriate by the Contest Judge and the problem authors.

4.3 Judging Feedback

47. The judging system provides a number of indicators regarding the success or failure of test cases.

48. The following messages are used as status indicators (from highest to lowest priority) :

Evaluating
Requires Reevaluation
Program Size Exceeded
Invalid Submission
Compile Time Error
Runtime Error
Invalid Function
Time Limit Exceeded
Memory Limit Exceeded
Output Limit Exceeded
Wrong Answer
Presentation Error
Accepted

49. If several different status indicators are produced, only the one with highest priority is displayed in the ranking. This ranking is visible to all teams.

50. The team who submitted a solution will be able to see how many of the input files have received a given status.

51. The team who submitted a solution that received a status of "compilation error" will be able to see the error message of the compiler on the judging system.

52. The Contest Judge is authorized to modify the reported status should he consider that another status is more meaningful with respect to the team submission.

4.4 Ranking

53. The winning team is the team having produced the correct output for the greatest amount of input files.

54. In case of equality between two teams, the second, third and fourth criteria are respectively the smallest number of penalties, the smallest number of attempts at solving problems, and the time of last successful submission.

55. During the last hour of the Contest, the ranking display will be frozen and the winners will only be announced at the HC2 Diploma Ceremony.

56. Once the winners are announced at the HC2 Diploma Ceremony, the Contest Judge decisions are final.

5 Final Provisions

57. All teams participating in the Contest are required to accept the Contest rules.

58. The Contest rules stated in this document are valid for the duration of the Helvetic Coding Contest 2010 and they terminate 24 hours after the end of the Diploma Ceremony.