Nordic Championships 2009 Contest System

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1 Introduction

The Contest System (https://kattis.csc.kth.se) is a web based judge, similar to the Valladolid online judge (http://uva.onlinejudge.org/), or the Sphere online judge (http://www.spoj.pl). Solutions to problems are submitted using a web form. Submissions are enqueued for testing and the results are available over the web and by email.

The judge is normally used for course work at KTH and once you have an account you can log on over the web, browse problems and try to solve them.

At the contest we will be using a slightly modified judge. It will have score boards, it will not let you look att the results of other teams submissions (except what score board reveals), and it will allow you to submit clarification requests to the contest jury.

2 User account

You may want to try out the system in advance. In order to do so you need to register and get an account. Everyone registered for the contest can get an account in advance that he or she can use indefinitely.

If you are interested in an account, please see the KTH-website for instruktions: http://www.csc.kth.se/contest/ncpc/2009

Once you have the account, feel free to log on at https://kattis.csc.kth.se using the **Log in** link, and get acquainted with Kattis.

3 The contest version

On the contest day, there will be minor changes in functionality. This is because contest needs differ a little from course needs. While it would be nice to have the contest version up for several days we cannot do that as it would be too disruptive for the students that are doing course work. This section will describe the contest version of the system.

3.1 Before you log on

Go to the main page (https://kattis.csc.kth.se). Very little information is available before you log on. The *public links* at the top go to **Standings** (score

boards), **Problems** (the problem set, once the contest has started), **Documentation**, **News**, **About**, and **Log in**. Click **Log in** and enter username and password.

3.2 Once you have logged on

You will now have a contestant view of the system and below the *public links* you will se the *contestant links*. They are

- **My Info** where you can edit email address and change password. On the contest day you will be given a team account, and we suggest that you do not make any changes to that account.

- **Submissions** where you can see how your submissions are judged

- **Submit** which leads to the submission form

- **Clarifications** which leads to a page where you can issue clarification requests to the judges and read answers to clarification requests.

During the contest you will use a *team account*, and you will get username and password from the site director at your site. The personal Kattis accounts will not be usable on the contest system.

4 Judging a submission

A submitted solution is handled in stages, until a failure is detected or the submission is accepted.

4.1 Initial handling

The submission is checked to make sure the necessary information is available, such as problem-ID, language, and in the case of Java, main class. If this fails the result is **Submission error**. This also happens if your submission is too large. There is a limit on the size of the source code.

4.2 Compilation

The submitted program is compiled. If this fails the result will be **Compile error**.

4.3 Running the submission

The submission is run, and is supposed to read from standard input. Anything written to standard output is considered part of the output of the program, and anything written to standard error is ignored.

The program may fail due to **Time Limit Exceeded**. Each problem has a limit on the execution time for a submission. If the program has not halted by that time, it is terminated. The time limits used at the contest are not made public.

If the program violates the restrictions imposed by the security solution, the result is **Illegal Function**. While this can sometimes happen by mistake, the

judges will investigate your code to make sure you have not deliberately tried to bypass security.

If the program produces excessive output (a lot more than a correct solution would), then the result is **Output Limit Exceeded**.

If the program uses more memory than allowed, the result is **Memory Limit Exceeded**. Unless otherwise stated, the maximum memory usage of a submitted program is 128 MB during NCPC. The maximum stack size in Java is 5 MB.

If the program crashes, before the time limit and without violating any of the above constraints, the result is **Run Time Error**.

4.4 Validation

Finally, the output is checked for correctness, which will result in either **Wrong Answer** or **Accepted**. However, in the unlikely event that the validation process itself crashes, the result is **Judge Error**. If that should happen, please contact the judges through the clarification system.

4.5 Penalties

A 20 minute penalty is applied to submissions that fail, with the exception of Submission Error and Compile Error, which do not get penalty points. This does not mean that deliberately causing these (or other errors) in ways that threaten the integrity of the contest is allowed.

5 Multiple input files

The problem statements describe the input format of a single input file. It is possible that your program will be run several times against different input files. You do not have to take several input files into account when writing your program, simply follow the input/output specification in the problem.

If there are several input files, your program has to perform correctly on each input file, and the time limit applies to each input file. Your program will be executed once for each input file until it fails (in one of the ways described previously) or until it has handled all files successfully. If the program fails on an input file, it will not be run on any more files, and the failure on that input file is reported. You will not know which input file it failed on.

6 Conclusion

Good luck and happy hacking!