International Collegiate Programming Contest

Latin American Regional Contests

Warmup Session: April 1, 2022

Testing Environment and Submission System

1 Information on the Testing Environment

1.1 Environment

The submission correction system will be run using the `Ubuntu GNU/Linux 20.04 LTS amd64` distribution, with the following compilers/interpreters configured:

```
C: gcc version 9.3.0 (Ubuntu 9.3.0-17ubuntu1~20.04)
C++17: gcc version 9.3.0 (Ubuntu 9.3.0-17ubuntu1~20.04)
Python: Python 3.8.5
Java: openjdk-11
Kotlin: Kotlin version 1.4
```

1.2 Memory limits

```
C, C++17, Python: 1GB
Java, Kotlin: 1GB + 100MB stack
```

1.3 Time limits

A link to the document containing time limits for each problem will be available on the `Problems` tab of Boca's web interface.

1.4 Other limits

```
Source file size: 100KB
```

1.5 Compilation commands

```
C: gcc -g -O2 -std=gnu11 -static -lm
C++17: g++ -g -O2 -std=gnu++17 -static
Java: javac
Kotlin: kotlinc -J-Xms1024m -J-Xmx1024m -J-Xss100m -include-runtime
```

1.6   C/C++17

- Your program must return a zero, executing, as the last command, `return 0` or `exit(0)`.

- It is known that for problems with very large inputs, `iostream` objects can be slow as, by default, they use a buffer synchronized with the stdio library. If you want to use `cin` and `cout`, disabling such synchronization is advised. This can be achieved by calling `std::ios::sync_with_stdio(false);` at the beginning of your main function. Note that, in this case, using `scanf` and `printf` in the same program should be avoided, since, with separate buffers, misbehavior might occur.

1.7   Java

- DO NOT declare a `package` in your Java program; if you declare a package the program will not execute in Boca.

- Notice that the convention for the solution file name must be obeyed, which means that your public class name must be a capital letter (A, B, C, . . .).

- Command for running a Java solution: `java -Xms1024m -Xmx1024m -Xss100m {problem_code}`

1.8   Python

- Note that only Python 3 is supported.

- Beware: there is no guarantee that solutions in Python will run within the time limit specified for the problem.

1.9   Kotlin

- DO NOT declare a `package` in your Kotlin program; if you declare a package the program will not execute in Boca.

- Notice that the convention for the solution file name must be obeyed, which means that your source file must be named (A.kt, B.kt, C.kt, . . .).

- Command for running a Kotlin solution: `java -Xms1024m -Xmx1024m -Xss100m {problem_code}Kt`

- Beware: there is no guarantee that solutions in Kotlin will run within the time limit specified for the problem.

2   Instructions for the Usage of the Boca Submission System

2.1   Submission of Solutions

To submit a solution, you must use the Boca's web interface:

- Open your browser.

- Login as a team (username and password assigned to your team).

- Access the tab `Runs`. Choose the appropriate problem, the language used and upload the source file.

The verdicts you may receive from the judges are:

- 1 - YES

- 2 - NO - Compilation error

- 3 - NO - Runtime error

- 4 - NO - Time limit exceeded

- 5 - NO - Wrong answer

- 6 - NO - Contact staff

- 7 - NO - Class name mismatch

- 8 - NO - Wrong language

- 9 - NO - Problem mismatch

Meanings of 1, 2, 3, 4 and 5 are obvious.

- About 6: for unforeseeable circumstances. In this case, use the "Clarifications" menu and provide the "run" number for further clarification.

- About 7: only for Java/Kotlin submissions, reported when the team submits a solution with a file name different from the public class declared, causing the run execution to fail. You will also receive this answer if you declare a package in your source file.

- About 8: used when the submission fails in a way that allows judge to notice that the wrong language was selected.

- About 9: a wrong identification was chosen for the problem when submitting the solution. This answer is only sent if the judges can detect the error, for example when the source file is named `B.cpp` and the problem chosen is `C`), or the java filename is not a capital letter representing a problem.

Notice that it is not always possible to distinguish among verdicts 3, 7, 8 and 9. For example, when a team submits a source file `B.java` in which a public class `A` is defined as a solution to problem `A`, the verdict may be "Name mismatch" or "Problem mismatch".

Response Times

Note that the time required for coming up with a verdict varies depending on the problem, the verdict, and the point at which the contest is in when the submission is received. As solutions are judged simultaneously, this means that you might receive the verdict of your runs out of order. Also, in some cases, manual verification is required from the judges. Depending on what needs to be verified and the number of submissions that require manual verification, even delays on the order of minutes are expected.

2.2 Clarifications

To request a clarification concerning a problem statement, you must use Boca's web interface:

- Open your browser.

- Login as a team (username and password assigned to your team).

- Access the tab `Clarifications`. Choose the appropriate problem and type your question.

2.3   Score Board

To visualize the score board showing the teams ranking, you must use Boca's web interface:

- Open your browser.

- Login as a team (username and password assigned to your team).

- Access the tab `Score`. You will have access to the local score board.