



## International Collegiate Programming Contest

Latin American Regional Contests

*November 8th-9th, 2019*

# Testing Environment and Submission System

## 1 Information on the Testing Environment

### 1.1 Memory limits

C, C++14, Python: 1GB

Java, Kotlin: 1GB + 100MB stack

### 1.2 Other limits

Source file size: 100KB

Output size: 1MB

### 1.3 Compilation commands

C: `gcc -g -O2 -std=gnu11 -static -lm`

C++14: `g++ -g -O2 -std=gnu++14 -static`

Java: `javac`

Kotlin: `kotlinc -J-Xms1024m -J-Xmx1024m -J-Xss100m -include-runtime`

### 1.4 C/C++14

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

### 1.5 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}`

## 1.6 Python

- Be careful to select the correct version, using the extension `.py2`, for version 2, or the extension `.py3`, for version 3.
- Beware: there is no guarantee that solutions in Python will run within the time limit specified for the problem.

## 1.7 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

The submission of solutions must be done by command line, using a *Terminal* app. In the window of the Terminal app you must execute the following command:

```
boca-submit-run USERTEAM TEAMPASSWORD PROBLEM LANGUAGE SOURCEFILE
```

where

- **USERTEAM** and **TEAMPASSWORD** are respectively username and password for your team.
- **PROBLEM** is the letter that identifies the problem for which the submission is being made (A, B, C, etc.).
- **LANGUAGE** is the language, which must be one among **C**, **C++14**, **Java**, **Python2**, **Python3** or **Kotlin** (the list of valid languages appears also in the Firefox page for the team inside BOCA).
- **SOURCEFILE** is the source file of the solution. The file name must not contain blank spaces or other special characters, such as quotes or the dollar sign. Make sure the current working directory is the same where your source file is, otherwise you must provide as **SOURCEFILE** the complete path of your source file.

Executing the command `boca-submit-run` without parameters produces as output a text explaining the parameters, similar to the explanation above.

Example of command line to submit the source file `train.cpp`, from team `team01` and password `Ffi57`, for problem B:

```
boca-submit-run team01 Ffi57 B C++14 train.cpp
```

The submission will be sent immediately to the server and a confirmation will be received. In case of temporary Internet disconnection, the submission will be put in a local queue, and will be sent to the server as soon as the connection to the Internet is reestablished.

## 2.2 The Result of your Submission

To find the result of your submission, you must use the Boca’s web interface:

- Open Firefox.
- Login as a team (username and password assigned to your team).
- Access the tab **Runs**.

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 - Presentation error
- 6 - NO - Wrong answer
- 7 - NO - Contact staff
- 8 - NO - Name mismatch
- 9 - NO - Wrong language choice
- 10 - NO - Problem mismatch

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

- About 5 and 6:
  - if the team’s output is exactly the same as the judges’, the answer is “YES” (`diff` reports no differences found);
  - otherwise, if they differ in the case of letters or the amount of white space (empty lines, blanks) the answer is “Presentation error”;
  - otherwise, the answer is “Wrong answer”.

BOCA uses `diff -biwB` and `wdiff` to decide about Output format error.

- About 7: for unforeseeable circumstances.
- About 8: 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 to fail execution. You will also receive this answer if you declare a package in your source file.
- About 9: mainly for Python2 and Python3, but could happen with other languages also.
- About 10: 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, 8, 9 and 10. 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”.

### 2.3 Clarifications

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

- Open Firefox.
- Login as a team (username and password assigned to your team).
- Access the tab **Clarifications**. Choose the appropriate problem and type your question.

### 2.4 Score Board

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

- Open Firefox.
- Login as a team (username and password assigned to your team).
- Access the tab **Score**. You will have access to the local score board.