



CASPita
Critical Assessment of Student Programming in Italy
Call 2016

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1 - Aim and Resources

The [Regional Student Group \(RSG\)-Italy](#) is part of the [International Society for Computational Biology \(ISCB\)](#). Our purpose is to challenge the Italian bioinformatic programmers community with some of the most widespread biological issues. In short term, the goal is to organize the first coding assessment specifically conceived for young Italian programmers within the Bioinformatics and Biology areas. The challenge will specifically address topics of interest for the community. The proposed solutions will be evaluated and the best ones will be shared with the community so that everyone will take advantage of the contest.

The long term goals include the creation of a set of simple, well commented and re-usable parsing and processing tools, as well as algorithms, of interest for the whole Biologists and Bioinformaticians network. In addition, the contest will promote the dialogue and discussion on biological problems from the programming point of view, as well as the interaction between the two sides of Bioinformatics: biologists and programmers.

2 - Who can enter the competition

Whoever wants to take on the challenge can apply for the competition, there are no restrictions about participants' background or age.

3 - Content

3.a - Competition object

The aim of the competition is to create a **parser for the default output of BLAST and PSI-BLAST**. The parser can return most useful information, a more complete report with all information in (PSI-)BLAST output or even generate extra, locally generated data (e.g the multiple alignment of the homologous sequences retrieved by (PSI-)BLAST). Parser capabilities and completeness will be evaluated by the biological side of the assessment.

Furthermore, it is possible to enable the parser to give an output. The output must be in JSON format.

3.b - Prize

The prize for the winner will be an Amazon coupon of 200€. We will update the information if more prizes will be available.

3.c - Refunds

Refunds are not contemplated since the project doesn't require any specific expense.

4 - How to submit an application

4.a - How

Applications will be submitted as an email to rsg-italy@iscbsc.org, with object "CASPIA <name of the project> <name of the applicant/group>". The email text may contain particular communications or be empty. A confirmation email will be sent back if the project has been successively submitted.

4.b - When

Participants will be able to apply for the announcement until a week before the project submission deadline. Any late application will not be included in the competition. Precise dates will be published on the [RSG-Italy Facebook page](#) and will be sent by email to all participants.

4.c - Where

The announcement will be published on the [RSG-Italy Facebook page](#), website and on Twitter. Submission is only possible through email (at the address rsg-italy@iscbsc.org), any submission sent through the facebook page or other means will not be included in the competition.

5 - How to submit the project

6 - How is the assessment done

The submitted proposals will be evaluated by a team composed both of programmers and biologists with limited coding experience. Two members of RSG-Italy leadership will be excluded from the participants and involved in the advertising and evaluation of the competition. Considered their main skills in programming, they will be flanked by two wet-lab biologists. The so-formed team will ensure that the evaluation will be both from the computational point of view (program speed, memory usage and bugs) and from the point of view of a non-expert user, that will favour well-commented scripts and readable and reusable output. Assessment will be divided into two sections that will equally contribute to the final grade.

The first section will assess program efficiency: execution time and memory usage will be both given a 1-5 score. This part of the grade will be the average of the received scores. Multiplatform tools will get a bonus point on the final grade.

Biologists will be responsible of the second evaluation. They will focus on usage instructions and output readability, as well as on testing the program flexibility with more difficult or specific cases. This section grade will range from 1 to 5.

The final grade will be the sum of the two section grades plus the bonus point if the tool is multiplatform.

7 - Publication of the Results

Admission to the competition will be communicated with a confirmation email upon the submission of the application.

Assessment results will be published on the [RSG-Italy Facebook page](#), website and on Twitter. All participants will be notified by email. Winner(s) will receive a specific notice.

8 - Prize presentation

The prize (200€ in amazon coupon) will be sent to the email address used for the application.

Special commission prize:

The prize will be awarded to the applicant. In the case the project is submitted as a group only one prize will be awarded. The recipient will be decided within the group and communicated to RSG-Italy.

9 - Privacy

Privacy rights are referred to italian law:

Art. 13 del D. Lgs. n. 196 del 30 giugno 2003, "Tutela delle persone e di altri soggetti rispetto al trattamento dei dati personali"

10 - More info

For further information please write to rsg-italy@iscbsc.org or on the facebook page [RSG-Italy](#).