Chapter 63

Python Programming Workshops as OBI Preparation

Enzo Zanatta
E-mail: 186665@upf.br

Mariana Krein da Silva

Marcos José Brusso

1 INTRODUCTION

The Brazilian Programming Olympiad, (OBI) is a competition organized by the Institute of Computing at UNICAMP. The OBI is organized into two modalities, each divided into levels, the modalities are Initiation and Programming. The initiation modality requires students to answer logic and computational reasoning questions. The Programming modality requires students to solve programming questions, students must choose one of the languages that are allowed in the test to solve the questions. The best students in both categories are invited to the OBI Olympic week at the UNICAMP Institute of Computing, where they participate in courses and training from basic to advanced. The purpose of carrying out the programming workshops was to prepare students interested in programming and computing to participate in the OBI in the programming modality with the Python language.

2 METHODOLOGY

Python programming workshops were designed to teach programming and prepare students for the Brazilian Computer Olympiad with a focus on programming. Five shifts of workshops were planned, lasting 3 hours each, and with this schedule, Python was chosen as the programming language to be taught, because it is a simpler language, among the other options that students could choose to answer the questions. OBI issues. Classes were taught by Paidex scholarship holders linked to the Experimental Factory Extension Project for Software Development and Testing with the supervision of extension teachers. In the first three workshops, basic language concepts and commands were taught, such as variables, mathematical operations, input and print commands, lists, matrices, decision structures, and repetition loops. In the last two workshops, the focus was on exposing and getting the participants used to the logic of the OBI problems that mix logic with programming and an environment similar to the test environment, which consists of an official test site where the student enters with their specific access and finds the questions with a space to

write the student's response code, but what raised the need to get the students used to the site was the fact that the input and output of data from the student code must be established in the exact molds of the established in the text of the question to be answered. That's why we introduced the participants to Beecrowd, a platform with several programming problems and a tentative submission model similar to that of the OBI, in it is extremely important that the answers to the problems are in the correct format. Finally, participants were challenged to solve questions from previous editions of the OBI to familiarize them even more with competitive programming. It is important to point out that to participate in the workshops, interested parties were not obliged to take the OBI test, of all those who participated in the workshops – they signed up to take the test. After the end of the workshops, the OBI test was held on 06/01/2022. In addition to the students who participated in the workshops, several students in the first semester of the computer science course took the test. In total, 8 students who took the test on 01/06/2022 moved on to the second phase.

3 CONCLUSION

The realization of programming workshops made it possible to teach programming to high school students and with the importance that computing has today, we can say that these participants acquired knowledge of great weight that is not provided during high school and are from an area gigantic and constantly growing in the market. A fine-tuning experience was also provided for the organizers.

ATTACHMENT

Training Workshop

Application of the test - 1st phase