

# First Prometidos Summer School

Madrid, 19-21 September

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*Test Case Generation for Object-Oriented Programs in CLP*

The course will focus on two topics which are often not related: (1) resource analysis and (2) test-case generation. As regards (1), the classical approach to static cost analysis consists of two phases: In the first one the program is translated into a set of recurrence relations; and in the second phase they are solved into closed-form upper/lower bounds. In this presentation we will discuss the main techniques used to generate cost relations in Java-like languages, depending on the nature of cost we are interested in approximating. We will also see the methods used for solving them into closed form bounds. As regards (2), we will study an approach to test case generation based on symbolic execution. The course will finish by relating the two techniques, namely by explaining how resource analysis can be used to guide the process of finding interesting test cases.