Hands-on information

1. Form groups of 2/3 people;
2. Deliver a *software dependability report* of JPacman composed of:

   - **Code smells** affecting the system - You can use JDeodorant or any other code smell detector available (e.g., static analysis tools). Discuss which code smells did you focus on and why (e.g., only Blob, why?). Analyze and discuss possible refactoring opportunities.

   - Study the possible **vulnerabilities** affecting the system - You can use the static analysis tools already available in JPacman. Explain why the identified potential vulnerabilities make the code actually vulnerable. Discuss how would you refactor the code to remove the vulnerability.

   - Extract product metrics from the current version of the project with PyDriller; Extract the set of defect-fixing commits of the entire history and, subsequently, the corresponding defect-inducing commits - if a class has had at least one defect in the past, mark the class as defect-prone, non-defect-prone otherwise; Finally, define a **defect prediction model** relating product metrics to defect-proneness using R/Weka. Report the methodological choices applied when defining the model (e.g., applying data balancing or not, why?) and how you evaluated it.

3. Report the results of your analysis, possibly in LaTeX, and push it to the repo under the folder "hands-on". The name of the pdf file should follow the naming convention "ID-sw-dependability-report". **<u>Deadline: April 26, 2019 at 12:00.</u>**

Hands-on information: Why should I do it?

I. To learn how to apply methods software dependability methods in practice;

II. To be able to measure dependability requirements and understand how to make your next system better;

III. To get two hours free on Thursday;

IV. To get a few additional points: based on the quality and the depth of the report, you may have up to 3 bonus points at the exam;

Exam: Some important notes

I. There will be 30 questions. 18 of them in a multiple-choice format, 6 of them will be open. The questions will be shuffled.

II. The exam will cover **ALL** aspects treated during these two weeks.

III. If you correctly answer all the multiple-choice questions, you get 18. But… if you fail answering a multiple-choice question, you get a penalty of one point => **don't try guessing the correct answer!**

IV. If you are surprised while copying, **you automatically fail the mid-term** => no excuses, no second chances: see you in June!

V. You get the extra-points of the report **if and only if** you pass the mid-term.

VI. But, if you have followed the course, **you will be able to get 30L!**