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| <b>Theme</b>             | <b>Key Programming Paradigms</b>   |  |
|                          | Programming languages are systems of symbols and rules which programmers use to write the instructions to be followed by the computer hardware in order to meet specific goals. Programming languages support different paradigms or ways of programming — such as procedural, object-oriented, functional, logical.   |  |
| <b>Problems</b>          | <b>How do those paradigms impact software design?</b>  | <b>How do those paradigms impact engineering efficiency?</b> |
| <b>Learning outcomes</b> | <p>At the end of the work, regarding the topic and problem studied, students should be able to:</p> <ul style="list-style-type: none"> <li>• define the main underlying terms</li> <li>• present a clear, illustrated summary with clarifying examples of the underlying concepts</li> <li>• if possible, identify examples of the use of the underlying concepts in academic life (teaching and research) at FEUP (or U.Porto)</li> <li>• if possible, fit the underlying concepts into one or more of the UN Sustainable Development Goals*</li> <li>• present the group's vision, formed after the work has been carried out</li> </ul> |  |
| <b>Biblio</b>            | <p>Mere examples:</p> <ul style="list-style-type: none"> <li>• Van Roy, P. (2009). Programming Paradigms for Dummies: What Every Programmer Should Know.</li> <li>• <a href="https://cs.lmu.edu/~ray/notes/paradigms/">https://cs.lmu.edu/~ray/notes/paradigms/</a></li> <li>• <a href="https://linearb.io/blog/engineering-efficiency">https://linearb.io/blog/engineering-efficiency</a></li> <li>• Wikipedia: Programming paradigm</li> </ul>   |  |
| <b>Team #</b>            | 1 e 2  | 3 e 4  |
| <b>Class</b>             | 1LEIC08  |  |
| <b>Teaching team</b>     | Supervisor: João Correia Lopes   |  |
|                          | Monitor: Miguel Garrido  |  |
|                          | ProjFE/UP Course Coordinator: Magalhães Cruz   |  |

\* <https://sdgs.un.org/goals>