

RAMDE - Engenharia Orientada a Requisitos e Modelos

Project - Assignment 4

Code Generation

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2024-2025

Outline

1 Prerequisites

2 Description / Tasks

3 Deadlines

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Required: Team and Project Repository

It is the same team and repository for all the assignments.

- ① Have you already formed a team (2 students) to develop the project?
 - NO!!! What are you waiting for...
- ② Have you already informed the teacher by email of your team?
 - NO!!! Do it ASAP to "pam@isep.ipp.pt"
 - Do not forget to had your team mate(s) in "cc"
- ③ Did you receive the link/invitation to the assigned team project repository?
 - NO!!! Please, contact the teacher reporting this issue (if necessary)
- ④ Did you check that you have read/write access to the assigned team project repository?
 - NO!!! Do it ASAP
 - Please, contact the teacher in case you do not have read/write access to it

When you answer "Yes" to all these questions, then you are ready to proceed.

Software and Tools

Before proceeding to the assignment tasks, ensure that you have the following tools installed and properly operational:

- **Eclipse Modeling Tools**

- A reference tool solution for MDE and DSL development
- It provides implementations for standards such as **MOF** and **OCL**
- More info:

<https://www.eclipse.org/downloads/packages/release/2024-06/r>

- Add **OCL Support** features (as described on P3)

- Add **Acceleo** features

- Use the "Install New Software" option of the "Help" menu
- Select option "2024-06 - <https://download.eclipse.org/releases/2024-06>"
- On the "filter" field type "Acceleo"
- Select for installation the "Modeling / Acceleo..."
- Complete the installation

- Git

- Bitbucket account registered with ISEP email

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Context

This assignment is based on the outputs of two previous assignments:

- **P3:** where a metamodel for *Moore* and *Mealy* state machines was developed
- **P1:** where the Java *Easy-States* project (or library) was analyzed and extended to support *Moore* and *Mealy* state machines

Make sure you have completed these two assignments before proceeding to this one.

The **general objective** of this task is:

- Having as **input any model** expressed in the metamodel developed in P3
- **Generate executable Java code**, which corresponds to the input model, reusing the *Easy-States* library of P1

Assignment Tasks

Follows the tutorial presented in the lecture to complete these tasks:

- 1 Create a project to execute model transformations in any model expressed according to the metamodel developed in P3
- 2 Generate a PlantUML source file depicting the model received as input
- 3 Generate executable Java code corresponding to the model received as input and that reuses the *Easy-States* library
- 4 Test / Evaluate your transformations on distinct input models (at least three)
- 5 Explore possible issues and limitations
- 6 Commit the code into your repository
- 7 Report your work in the readme file of the repository, including images for the produced diagrams

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Project Assignment(s) Deadline(s)

Project assignments are drawn up to be developed by students in a sequential order, i.e., first students develop assignment P1, then assignment P2 and so on...

The foreseen project assignments schedule is depicted in the following table:

Part	Assignment	Release Date	Deadline
1	P1	2024/09/23 (W2)	2024/11/03 (W7)
	P2	2024/09/30 (W3)	2024/11/03 (W7)
	P3	2024/10/14 (W5)	2024/11/03 (W7)
	P4	2024/10/28 (W7)	2024/11/03 (W7)
2	P5	2024/11/04 (W8)	2024/11/24 (W10)

Unless stated otherwise, these deadlines must be honoured.

References & Bibliography I

- [1] Alexandre Bragança. *Lectures Handouts on Requirements and Model-driven Engineering (RAMDE) 2023/24*. 2023.

Questions?

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Thank You!