ECAM
BRUSSELS ENGINEERING SCHOOL

Fall 2019
Sébastien Combéfis

I402A Software Architecture and Quality Assessment

Quizz 3: Metric and refactoring

This assessment evaluates the following competencies:

- *SA201 – Define what is software quality and explain how it can be ensured*
- *SA302 – Understand refactoring and use it to improve the quality of a code*
- *SA303 – Choose a suitable metric and use it to evaluate a given quality criterion*

Three affirmations are given for each assessed competency. For each of them, you have to decide whether it is true or false. To get a star for the competency, you must have the correct answer for the three affirmations.

SA201	**True**	**False**
Satisfying quality criterion is a compromise exercise since it is not possible to always satisfy all the existing software quality criteron for a given software system.	☐	☐
Sometimes, some sacrifices may have to be done about quality criteria depending on the business requirements.	☐	☐
By choosing a good and relevant architecture, it is possible to improve (some aspects of) the quality of a given software system.	☐	☐

SA302	**True**	**False**
The refactoring process is just a source code transformation, it is not supposed to change any feature of the software system.	☐	☐
One possible solution to eliminate code duplication is to apply the template design pattern.	☐	☐
To ensure that a refactoring has not broken any feature, it is useful to test the code before and after the refactoring, with the same tests suite.	☐	☐

SA303	**True**	**False**
The reliability of a software system can be measured with the code coverage metric.	☐	☐
Since the fan-in fan-out complexity measures the coupling between module, it can be used to measure the maintainabilty, evolutivity and scalability of a software system.	☐	☐
For each quality criterion, there is only one unique and single metric to measure it.	☐	☐