MEIC - Engenharia de Software – 2014/15
8th Practical Class
Software Verification and Validation

1. [Code inspection] In groups of 2 students, follow the team inspection script shown below for the artifacts attached (source code and review checklist). In the end, fill in the inspection form.

Script	Team Inspection
Inputs	Source code. Review checklist. Inspection form.
Outputs	Inspection form filled in
Steps	• Individual prepartion (code review): o Read the checklist to know what to look for o Review the code and mark defects found in the source listing o Read the checklist again to see if anything was forgot , and recheck if needed • Inspection meeting (consolidation and discussion): o Choose a moderator, to lead the session o Walk through the code and fill in the review form o Compute final values

Defects found				Inspectors (finding major defects)		Major defects find by both
Line No.	Defect Description	F Major (1,2)	Minor (1)	A (1)	B (1)	C (1)
Totals						

(1) Mark an "X" when applicable. (2) Major: if not fixed, may compromise the subsequent usage (in execution or maintenaince).

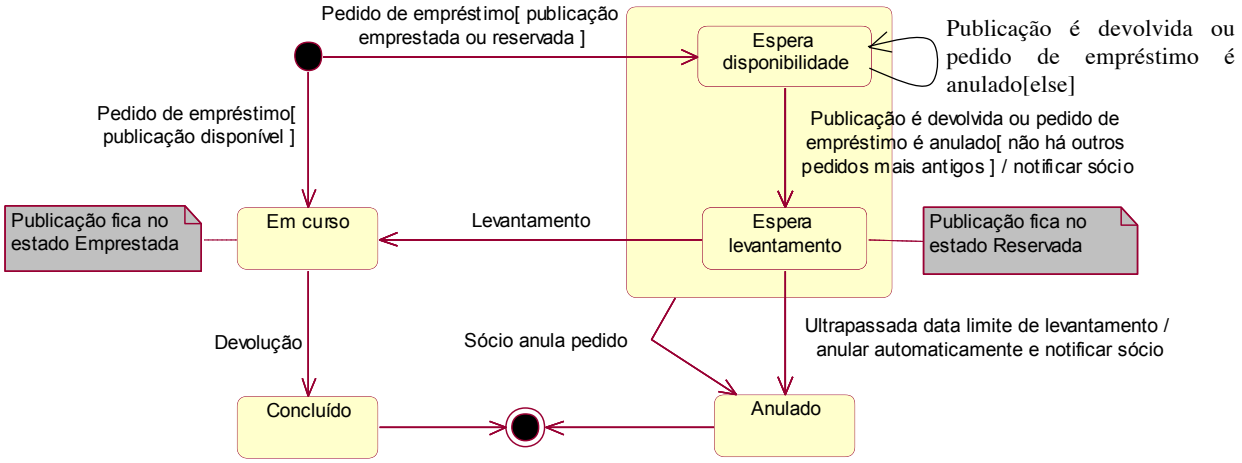
Estimate of total existent defects (T=AB/C)	
Estimate of defects missed (R=T-F)	

Student names:

_____

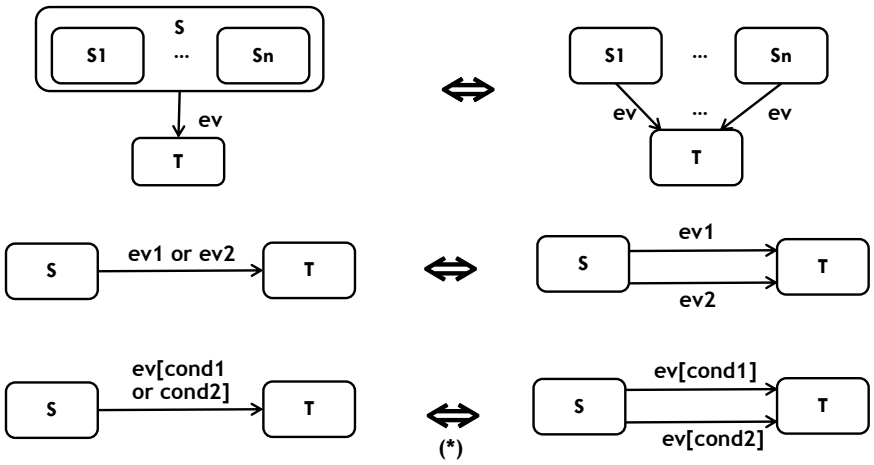
_____

2. [Test case design] This exercise is to be done in groups of 2 students. The following UML state machine diagram, describes the lifecycle of a book rental in a library.



The goal is to design test cases covering all the elementary states, transitions, events and guards in the diagram, by following the steps below.

a) Expand composite states, events and guards in the previous diagram, by following the equivalences indicated in the next figure. Draw the expanded diagram in the response sheet (back).



(*) if cond1 and cond2 mutually exclusive

b) Define one or more test sequences covering all states and transitions in the expanded diagram, with a minimum total number of test steps. Describe each test sequence with a notation similar to the following example.

Passo	**Transições exercitadas (*)**	**Descrição**	**Resultado esperado (estados e notificações)**
0		Inicialização	P1: disponível
1		Sócio S1 pede empréstimo E1 de publicação P1	E1: em curso, P1: emprestada
2		Sócio S2 pede empréstimo E2 de publicação P1	E1: em curso, E2: espera disponibilidade, P1: emprestada
3		Sócio S2 devolve publicação P1	E1: concluído, E2: espera levantamento, P1: reservada, S1 é notificado para levantar P1
4		Esperar prazo de levantamento menos um dia	E1: concluído, E2: espera levantamento, P1: reservada
5		Sócio S1 levanta publicação P1	E1: concluído, E2: em curso, P1: emprestada
..		…	…

* Numerar as transições no diagrama expandido e indicar aqui os respetivos números ou identificadores.

Answer to problem 2 (Students: _____ _____)

a) Expanded diagram

b) Test sequences (in case of several test sequences, restart numbering the steps)

Passo	Transções exercitadas	Descrição	Resultado esperado (estados e notificações)