DISI – University of Trento

Master in Computer Science AA 2016/2017
Simulation and Performance Evaluation
Assignment 3

Devising a Model

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The goal is simple: Devise and solve a markovian or queueing model for one of the protocols you have simulated in Assignment 2. It does not need be the model for the most complex protocol you have implemented. And it does not need to be the "best" model for that protocol, or to reproduce the simulation results within 1% accuracy. What you should do is to describe why and how you "invented" the specific model, and why it is representative of the system that you simulated before, and then comment the results you obtained.

The results of the model should be compared with those of the simulations and the differences explained. The solution of the model can also be a numeric one, e.g., to find the steady state probabilities of a Markov chain, but it cannot be a Monte-Carlo integration . . . that is another simulation. Iterative modeling is welcome, i.e., you first propose a very, very simple model, compare the results and then improve you model in some way.

To write your report use the LaTeX template we give you and do not write more than 4 pages. Deliver the PDF file of the report and all the code and scripts you used as a single .zip or .tar file through Classroom. DO NOT use absolute folders like

```
ds <- read.csv('/home/john.doe/Documents/spe/doe.csv')
```

but rather

```
ds <- read.csv('./doe.csv')
```

The deadline to have a correct-and-redo chance for this assignment is February 15, 2016. If you deliver the assignment within this date, we will correct it and give you the chance to refine it before the oral discussion, otherwise we will consider the work "as is" before the oral discussion is agreed upon. However, if the quality of the delivery is unacceptable (e.g., no methodology is described, plots are meaningless and not explained, etc.) we will not correct it, but simply reject it, so you lose the privilege of a pre-correction.

If you have some doubts, just write us an email or ask in class.

Have Fun!