

# Matlab project MVE095

The aim of this project is to investigate the properties of the following stock options:

1. European Barrier options
2. European Compound call/put options
3. Bermudan options

The project can be carried out by groups of max 3 students. If  $1 \leq n \leq 3$  is the number of group members, then each group should write a report on the first  $n$  options in the list above. For each option write a short text (max. 5 pages) that contains

- a description of the option and of what it is used for
- a discussion on its theoretical valuation
- a Matlab code that computes the theoretical price using the binomial model
- an example of application of the Matlab code. In particular, plot the initial price of the option in terms of the parameters of the option and discuss your findings

Specify the references of all documents used to write the report. In exceptional cases, groups of 4 students will also be accepted, but then the report will be expected to be more elaborated.

The maximum bonus points for the project is 1, which will be added to the grade of the final exam. Half bonus point will be based on the aesthetic presentation of the project.

**The deadline to submit the project is May 20.** Send the project to calogero@chalmers.se using OPTIONS16 in the subject and add to the recipients all the members of the group. The grade of the project will be announced to each group the week thereafter.