**Deadline for the homework project is the 6th of December.**

You will be evaluated on

* an individual assessment: the final test (50% of the final grade)
* a group assessment: the homework project by groups of 2 students (50% of the final grade)

Please form groups of 2 using the Collaboration function and post your spreadsheet in the dropbox below.

**Homework project**

**Objective:** You have to produce a user-friendly spreadsheet that allows to price different type of options.

**Mandatory:**

* A sheet using the Binomial Tree to price european and american calls and puts. The number of steps/nodes should be a parameter. The greeks have to be computed with the price.
* A sheet using Monte-Carlo to price Lookback Options (call or put). The number of steps and the number of simulated paths should be parameters.
* A sheet using Monte-Carlo to price Arithmetic Options (call or put).
* A sheet using Monte-Carlo to price Barrier Options (8 cases).
* A sheet allowing to compute the implied volatility from a european option price using the Black-Scholes formula.

**Bonus points:**

* Use a "UserForm" interface.
* Include dividends in the tree.
* Greeks with Monte-Carlo
* Price other types of path-dependent options.

European Option

American Option