Quasi-random number generator

Proposer / mentor: Dejan Velušček

The goal of this project is to implement the Sobol quasi random number generator, test and analyse it using simple Monte Carlo examples, and compare the results with the built-in random number generators as well as the parallel Sobol quasi random number generator that my colleague will be implementing.

I will be using C++ to implement the quasi random number generator.

Tasks already completed:

- Meet with the proposer / mentor. (completed 10. 3. 2017)

Main project tasks (yet to be completed):

- Research the construction of Sobol' numbers using this source:
  P. Jäckel: Monte Carlo Methods in Finance, Wiley, 2002, pages 80–88. (end of March)
- Familiarise myself with C++. (first week of April)
- Implement the quasi random number generator. (end of April)
- Test the quasi random number generator with Monte Carlo integration and compare the results to using built-in C function `rand` from `stdlib` library. (second week of May)
- Compare the results (error, computation time) with the parallel quasi number generator. (end of May)