Lab7 Grover's searching algorithm

Exercise T1 THEORY
Explain the role of Oracle in Grover's algorithm

Exercise Q1 THEORY
Solve assigment decribed in http://www.lassp.cornell.edu/mermin/qcomp/prob6.pdf

Exercise Q2 QUIDE
Implement and test the solution of exercise 2 in the simulator

Exercise Q3 QUIDE
Run full Grover simulation from the file.

Please note: in order to view amplitudes of register x state add the following code after
Oracle and Inverse functions (to be shown during the lab):

//this Hadamard gates are only for viewing purposes !

y.Hadamard(0);

// here we can view amplitudes in simulator
Console.WriteLine("After Oracle/Inverse:");
Console.WriteLine(x);

//going back to the algorithm
y.Hadamard(0);

Exercise I1 IBM
Compare exercise Q2 with IBM solution