Blockchain Simulator

Instructions to run the simulator:

Compile the `main.cpp` file using `g++ main.cpp`.

```
./a.out <SimulationTime> <NumberOfNodes> <percentSlowNodes> <lambda for
transaction> <lambda for block>
```

Directory Structure

The directory contains the following files:

- `main.cpp` : Contains the main blockchain simulator code. Takes in the following arguments:

1. Simulation time (in seconds)
2. Number of nodes in the network
3. Percentage of slow nodes (in % between 0 to 100)
4. Probability with which two arbitrary nodes are neighbours in the network

- `functions.h` : Contains the utility functions required for the simulation.
- `globalvariables.h` : Contains the the global variables that are initialised and updated by variaous other functions.
- `structures.h` : Contains the following user-defined structures: node, block, event, transaction and their constructors.

Simulation Output

1. `blockData.txt` : Information of the generated blocks
2. `BlockChain_*.txt` : Blockchain tree for each node, with other details
3. `initialCoins.txt` : Coins owned by each node at the start of simulation
4. `FinalCoins.txt` : Coins owned by each node at the end of simulation