Exhaustive Search Scan Matching

The implementation consists of the following:

- Common structures: these are common structures used through the project
- Utils functions: these are utility functions used through the project
- Grid2D class: this is a class used to define an occupancy grid where obsetcals/objects are created. This class is passed to RangeFinder class to generate the range finder data, the actual data that will be used later to estimate the sensor pose.
- RangeFinder class: this class is used to mimic an actual range finder sensor. It generates sensor data defined as <angle and range> to the surrounding obstacles placed in the Grid2D.
- Estimation2D class: this class where the estimation algorithm is placed. It uses the occupancy map, range finder data, initial sensor pose and the pose the search criteria.

In order to test the code implementation few steps have been made:

1. unit tests: unit tests are created in order to test the common structure and utils functions.
2. Integration tests: few integration tests are created to test the integration of the classes and their implementation. Although, the integration tests are not through as more tests are still required in order to cover all corner cases.
3. Demonstration: an example test have been created (app/main.cpp) in order to demonstrate the integration of the code and its implementation.