GENERAL INFORMATION:

All games are text based games, no need for any graphics (ofcourse other than ASCII graphics, so for example if you build minesweeper or battleship game it is not enough to have it completely text based, atleast some printouts made with characters that represent the current situation should be used.)

No need to build functionality to use mouse, so player selecting square from minesweeper / battleship game can be asked to input the square by typing in for example "A1" and press enter.

Project must include: Design part (MS Visio drawing or something similar) and the source code that is well commented and clear to read.

Completed projects must be returned to tuubi! Projects must include the source code and design documentation! Deadline is 6th of May 2015.

GRADING:

For those students who are looking to pass the course with good grade (3) might want to pick up the project task 1, for it is not nearly as demanding as the 2 or 3. For the students who wish to get a grade of 4 or 5, I would recommend working on the harder project tasks 2 or 3.

It is adamant that the code is well indented, there are clear comments and code is divided to sections (such as if you are using functions they are grouped to a clearly understandable way for example at the end of the source code and their location is clearly documented in the top of the file).

PROJECT TASKS:

Select one project subject from the following:

1. Text quiz
    20 questions with yes / no answer. Questions are read by the program from a file and answers are checked against data on another file (so questions and answers are in separate files)
    Questions should be asked with the question number in front of it, so for example:
    "1. Is the Si unit of speed miles per hour?"

2. Minesweeper
    Build a minesweeper game (http://en.wikipedia.org/wiki/Minesweeper_%28video_game%29).
    Atleast 10 x 10 grid and possibility to mark found mines. Test the game to see how it works and do your best to implement the same functionality in your project.

3. Battleship
    Build a battleship game (http://en.wikipedia.org/wiki/Battleship_%28game%29)
    10 x 10 grid with the following ships:

battleship	size: 4	amount: 1
submarine	size: 3	amount: 2
patrol boat	size: 2	amount: 3

    Boats cannot touch each others on their sides nor on their corners. They must be either on vertical or on horizontal alignment, they cannot be tilted. Game must be playable with 2 players against each other. Game should be designed so, that player turn switch tells the other player to turn away before showing the other players current situation on the "map".

    Game starts after both players have deployed their fleets (deployment is done by telling which is the starting square of the ship and the direction it will be placed on, for example: A1L = starts at location A1 and continues to left as many squares as the ship size is.

    Players take turns and select squares to try to shoot other players ships. If missile misses, turn passes to the other player. If missile hits, player gets new turn until he misses or wins the game.

    Game ends when other players ships are all sunk, or the player forfeits. Program should then tell which of the players was victorious.

    During the game player must be able to print out a list of squares that he has already shot to and if they were misses or hits.

    For additional bonus you can build the game so that you can play against computer, change the grid size and boat types and amounts and so on.

4. Bring up your own idea! (must be approved by the teacher!)