



Computer Science 2B

Practical Assignment 09

2016-10-26

Deadline — 2016-11-08 12h00

Marks: 100

This practical assignment must be uploaded to eve.uj.ac.za **before** 2016-11-08 12h00. Late or incorrect submissions **will not be accepted**, and will therefore not be marked. You are **not allowed to collaborate** with any other student.

The Java Development Kit (JDK) has been installed on the laboratory computers along with the [Eclipse](#) Integrated Development Environment (IDE).

No extensions will be given!

Utilising your knowledge of Java and all content presented in this course you are required to produce a multiplayer game of your choice. You are allowed to utilise 3rd party libraries for display and/or sound provided they are referenced correctly. **You are not allowed to use 3rd party libraries for game logic! This must be your own work!**

You are not allowed to reuse the game that you developed for CSC2A.

You are required to create your own custom protocol for your game. You need to provide a basic outline of this protocol in a separate document. This outline must show all commands, responses, status codes and error codes in your custom protocol.

The game must also have the following:

- An appropriate GUI.
- Game logic.
- Multiple game sessions can be played at the same time.

Additionally in the *docs* folder you must include 3 screen captures (screen-shots) of your game. One screen capture on game start-up, one screen capture during gameplay and one screen capture when a game is over.

The following types of games (including direct derivatives) are not allowed:

- Poker
- Checkers
- Black Jack
- Uno
- Memory (Matching Pairs)
- Tic-Tac-Toe
- Pong
- Tetris
- BattleShips
- 4 in a row
- Dots and Boxes
- Hangman
- Snake
- Pacman
- Space Invaders
- Breakout
- Slide Puzzles
- Asteroids
- Minesweeper
- Flappy birds
- Quiz games
- Any textbook examples

Marksheet

1. Custom protocol outline
 - (a) Commands available [05]
 - (b) Response to each command [05]
 - (c) Status/Error codes [05]
 2. Screen captures. [10]
 3. Fully featured GUI. [10]
 4. Multiple game sessions. [10]
 5. Game logic with a certain level of complexity (i.e. either real-time or turn based with animated elements). [15]
 6. Coding convention (structure, layout, OO design) and commenting (normal and JavaDoc commenting). [15]
 7. Correct execution.
 - (a) No exceptions during gameplay. [10]
 - (b) Responsive. [15]
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NB

Submissions which **do not compile** will be capped at 40%

Execution marks are awarded for a correctly functioning application and not for having some related code.

Reminder

Your submission must follow the naming convention as set out in the general learning guide.

SURNAME_INITIALS_STUDENTNUMBER_SUBJECTCODE_YEAR_PRACTICALNUMBER

Example

Surname	Berners-Lee
Initials	TJ
Student number	209912345
Module Code	CSC2B10
Current Year	2016
Practical number	P00

Berners-Lee_TJ_209912345_CSC2B10_2016_P00

Your submission must include the following folders:

- `bin` - Should be empty at submission but will contain runnable binaries when your submission is compiled.
- `src` - Contains all relevant source code. Source code must be placed in relevant sub-packages!
- `data` - (*Optional*) Contains all data files needed to run your solution.
- `lib` - (*Optional*) Contains all libraries needed to compile your solution.