**Java Console Assignment-ICS4U**

**Instructions:**

With your group decide on a console based program. Make sure to come up with some way of implementing the following concepts:

* **Selection**
* **Repetition**
* **Input** (use Scanner)
* **Arrays** (single and 2D)
* **Functions** (all class variables and functions must be **static**…local variables can be declared as usual). *Reusing copied blocks of code and not replacing them with functions will result in large mark deductions.*

Sample:

**package** prjStatic;

**public** **class** **statics** {

**static** **int** *score*=10;

**public** **static** **void** **main**(**String**[] args) {

// **TODO** Auto-generated method stub

**System**.***out***.println("The sum of 10 and 10 is " + *add*(*score*));

}

**static** **int** **add**(**int** number)

{

int sum=number+number;

**return** sum;

}

}

* **FileIO** (only use FileReader/BufferedReader)

Some ideas include:

**High / Low Number Guessing** – Randomly choose a number in a range of numbers and have the user guess. If their guess is too low, tell them “too low” and if their guess is too high tell them “too high”. Let them continue to guess until they get the right answer. Keep track of the number of guesses they made before getting it right.

**Tic Tac Toe with Friend Online –** A simple game of tic tac toe.

**Game of Memory –** Make a game where you have 8, 16, 32 or 64 cards which are to be matched in pairs. The user enters which two cards to turn over to see if they are a pair. Show the user the cards they turned over, if they match remove them from the game. If they do not match, flip them back over. For added complexity, impose a time limit or a turn limit.

**Black Jack –** Also known as 21 make a game where the goal is to get as close to 21 without going over using a standard 52 card deck. The user plays against a dealer who has to sit on any value 17 or under.

**Battleship** – Create two game boards and let each player place a number of war ships. Each player can’t see the other person’s board. They then take turns firing at one another by guessing one of the board squares. If the square they guess contains part of a ship, it is a hit. Otherwise it is a miss. They sink a ship when all squares containing that particular ship have been uncovered. The player wins when all their opponents’ ships have been sunk.

**Event Scheduler and Calendar** – Make an application which allows the user to enter a date and time of an event, event notes and then schedule those events on a calendar. The user can then browse the calendar or search the calendar for specific events. For added complexity, allow the application to create reoccurrence events that reoccur every day, week, month, year etc.

**Hangman-**The Goal: Despite the name, the actual “hangman” part isn’t necessary. The main goal here is to create a sort of “guess the word” game. The user needs to be able to input letter guesses. A limit should also be set on how many guesses they can use. This means you’ll need a way to grab a word to use for guessing. (This can be grabbed from a pre-made list. No need to get too fancy.) You will also need functions to check if the user has actually inputted a single letter, to check if the inputted letter is in the hidden word (and if it is, how many times it appears), to print letters, and a counter variable to limit guesses.

**ICS4U HTML-Java Console Programming Project**

**Submission Instructions:**

Create a web page linked via Unit 3 to promote your project.

Include a description of the program. Describe how to play/use it with screenshots.

Include links to your text source code, a zipped file of your entire project folder.

At the top of your code write a detailed description of how you implemented FileIO and 2D Arrays. This must be included at the top of your source file below the 4 basic comments.

Describe in detail each function as well as the purpose of each of its parameters and returned value (if applicable).

Each member of the group must have this (although one person can upload and the others can link to it).

Test your project thoroughly prior to submission.

Have a peer in your class outside your group review your project and grade each bulleted item in your marking table from 1 to 4. Make sure they sign off prior to your submission.

**Java Console Assignment-ICS4U**

**Name(s): Due Date:**

**Peer Evaluator: Date Submitted:**

**Marking Table Marks Deducted:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Category** | **Description** | **Value** | **Mark** |
| **COMM** | * **All test based input and output is nicely formatted/presented** * **there are no spelling or grammar errors** * **code is nicely formatted** * **the 4 main comments are included at the top of every separate file** * **documentation is detailed and comprehensive** * **all key features are highlighted in the docs with boxed asterisks** * **functions are described in your doc.’s** * **well organized web page that has all necessary links, information and screenshots** * **doc’s include FileIO and 2D Array implementation description** * **web page has all required features including project/program description, screenshots, links to zipped project, text based source files etc.** | **20** |  |
| **APP** | * **variables are properly named** * **variables are assigned suitable data types and are memory efficient** * **there is extensive use of selection** * **there is extensive use of loops** * **evidence of console input** * **there is evidence of the use of 1 and 2D arrays** * **functions without parameters are used** * **functions with parameters are used** * **functions with return types are used** * **file reading is implemented** * **file writing is implemented** * **peer evaluation is completed** * **project is stored in website Assignments/Completed folder** | **50** |  |
| **TI** | * **how much assistance was required to complete the project versus how much you were able to solve on your own** * **your product reflects high level critical thinking skills in terms of the level of coding needed to produce your final product** | **10** |  |

**My Comments:**