last revised March 22, 2022   **David Casperson**

Teams: The list of teams and members will be distributed separately. It is each team's responsibility to distribute work amongst itself and find appropriate times to meet.

Project: *Design* and *implement* a Backgammon-playing programs using the techniques of object-oriented programming in Java. The specifications and the problem statement have been previously handed out (and are available via http://casper.unbc.ca/Semesters/2022-01W/101-project.php at http://casper.unbc.ca/assets/pdf/cpsc101/2022/2022-cpsc101-project-spec.pdf).

Design (30%): Read the sheet "Thinking about Objects". As a group, discuss how you might apply these concepts to your Backgammon programs. Submit a design document that includes

- table of contents.
- a list of nouns,
- precisely worded paragraphs describing each noun,
- a list of facts,
- a list (by class) of attributes, behaviours, and messages sent to other objects,
- a cover, and a
- the percentage of work completed by each member of the group and provide the proposed distribution of workload for the implementation part of the project.

For each noun that becomes a class, it is probably helpful to combine the precisely worded paragraph, the list of facts, and the attributes, behaviours, and collaborations into one entry for that noun.

The above list gives minimal requirements for your design document. Include other information that you think will help you design and implement your project.

Some textbooks emphasize formalized design using UML diagrams. While I strong encourage you to learn as much UML as you can on your own, I am not going to teach it, or require it of you. In particular, *UML is not necessary in your design document*.

Also, identify the percentage of work completed by each member of the group and provide the proposed distribution of workload for the implementation part of the project.

Due Date: February 07, 2022

Revised Design (0%): I shall attempt to constructively criticize the design documents and return them to the project groups by early in the week of Februabry 11. I may insist in some cases that the design be re-submitted before work on the implementation begins.

Due Date: February 18, 2022

Implementation (50%): Complete the implementation of your simulator by writing code. Thoroughly test your program and provide the following:

1. An itemized list of contributions of each member.   **Due Date: March 15, 2022**

2. Your revised design document.   **Due Date: March 15, 2022**

3. Complete listings of your program.   **Due Date: March 15, 2022**

4. Sample output if feasible.   **Due Date: March 15, 2022**

5. A short users' guide explaining how to find and use your program(s).
      Due Date: March 15, 2022

6. A 5–10 minute presentation of your work and a demonstration of the simulation.
      Due Date: March 16, 2022

Note: As you proceed with the implementation, you may want to revise your design. This is acceptable, and even encouraged. However, *all changes to the original design must be clearly documented with the reason as to why thoses changes were necessary.*

Testing (10%): Your group will make your program(s) (but not the object code or source) and users' manual available to another group in the class assigned by the instructor. That group will thoroughly test your code and provide feedback for improvements in the design, interface, *etc.* You will do the same for a different group, and supply a copy of your written report to the group you review and to the instructor.   **Due Date:**

Individual report (15%): You will write a report on your individual experience in the team term project. The report *must* include

- what role you played, and what work you accomplished in your team project;
- thoughts on how your team's design documents helped (or did not help) your team's implementation efforts.
- your thoughts about how "integration" went; what worked well; and what you might do differently if you did this again;

The report *may* include:

- recommendations to the next cohort of students tackling a CPSC 101 project. What do you wish you had known or believed at the start of the project?
- recommendations on how to get the most from a group of students with diverse skill sets;
- recommendations to the instructor regarding this project.
- anything else relevant to your experience or the team term project.

      Due Date: April 04, 2022

Notes: 1. You will work on this project as a group. It is your responsibility to divide the work within the group and to make sure that your group functions effectively.

       2. All submissions *must be* formal reports, meaning that they must be neatly presented and bound, grammatically correct, correctly spelled, and professional looking.