Final Part 2 of 6 (20 minutes)

Started: Aug 19 at 10:05pm

Quiz Instructions

Welcome to the CSC207 Summer 2021 final assessment. This final assessment comes in 6 parts. Each one is a different quiz on Quercus. You have until 14:00 EST on Friday 20 August 2021 to submit your answers to all of them.

SAVE YOUR ANSWERS IN A TEXT FILE ON YOUR COMPUTER before copying them into Quercus and clicking submit.

You can use spell-check, grammar-check, IntelliJ, the internet, and your notes from the course to answer these questions. IF YOU COPY SOMEONE ELSE'S WORDS it is considered to be CHEATING!!!! **Be sure to put everything in your own words.** Give enough detail so that we are convinced that you understand the concepts.

To ask a question during the exam, go to our usual lecture Zoom session (**link (https://utoronto.zoom.us/j/89521849618)**) during the following times:

- 14:00--16:00 ET on Thursday 19 Aug
- 22:00--23:59 ET on Thursday 19 Aug
- 9:00--11:00 ET on Friday 20 Aug
- 13:00--14:00 ET on Friday 20 Aug

The first question in Final Part 1 of 6 contains the statement of academic integrity - please make sure to read it.

Question 1 — 3 pts

Write a BoardGameBuilder class that follows the Builder design pattern, given the following code.

```
public class BoardGame {

  private int size;
  private GameGrid gg;
  private Player player1;
  private Player player2;
  private WinValidator wv;

  public BoardGame(int size, GameGrid gg, WinValidator wv) {
    this.size = size;
    this.gg = gg;
    this.wv = wv;
```

```
  }

  public void setPlayer1(Player p) {
    player1 = p;
  }

  public void setPlayer2(Player p) {
    player2 = p;
  }
  //Other methods go here
}

public class GameGrid {

    private int size;

    public GameGrid(int size) {
      this.size = size;
    }
    //Other methods go here
}
```

You can assume that all other classes have the default empty constructor.

```
    public BoardGameBuilder() {}

    public BoardGameBuilder size(int size) {

        this.size = size;

        return BoardGameBuilder;

    }

    public BoardGameBuilder gg(GameGrid gg) {

        this.gg = gg;

        return BoardGameBuilder;

    }

    public BoardGameBuilder player1(Player player1) {

        this.player1 = player1;

        return BoardGameBuilder;

    }

    public BoardGameBuilder player2(Player player2) {

        this.player2 = player2;
```

```
        return BoardGameBuilder;
    }
    public BoardGame build() {
        BoardGame boardGame = new BoardGame(this.size, this.gg, this.mv);
       if(this.player1!=null) {
            boardGame.setPlayer1(this.player1);
        }
       if(this.player2!=null) {
            boardGame.setPlayer2(this.player2);
        }
        return boardGame;
    }

}
```

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Question 2

4 pts

Write a method called "getBoardGame" that takes an int parameter for the size variable and constructs a BoardGame of that size and returns it.

The method signature is:

```
public BoardGame getBoardGame(int size)
```

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12pt Preformatted B I U A T²

```
public BoardGame getBoardGame(int size) {
    return BoardGameBuilder.size(size).build();
}
```

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Question 3

2 pts

Explain why the getBoardGame method is not a factory method.

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12pt Paragraph

Factory method is the design pattern that a factory creates much different class which implements the same interface. Whereas, getBoardGame is the method that creates an instance of the sole class.

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Quiz saved at 10:25pm Submit Quiz