

## 1 Overview

For your sixth lab, you will create a program that plays the dice game craps. Specifically this lab covers,

1. Selection and repetition structures
2. GUI programming for input and output

Create a new directory called `Lab6` off of your `C:\userdata\CSC111` directory to save your work.

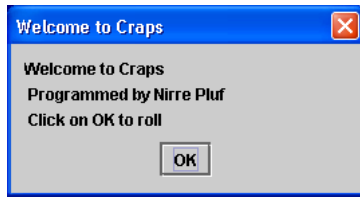
## 2 Craps

The dice game craps first appeared North America in the early 1700's. The game was first played on riverboats in the United States and then moved west with the frontier as the country grew. There are two types of craps played today: *street craps* and *bank craps*. Street craps is the variety played in informal settings. The betting is simplified, and someone must cover the bet in order for the game to progress. In contrast, bank craps is the variety played in casinos. The betting is more complicated and the house covers the bets (banks the game) so the players are playing against the house. We will play a modified version of street craps that does not include betting. The game consists one player rolling a pair of dice according to the following rules

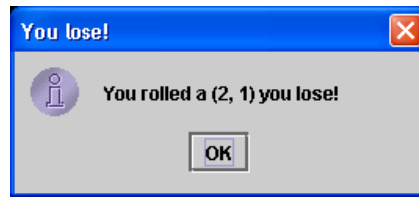
1. Player rolls the dice.
2. If the sum of the dice (sum of the die faces) is 7 or 11 the player **wins**.
3. If the sum of the dice is 2, 3, or 12 the player **loses**.
4. Otherwise (player did not roll a 2, 3, 7, 11, or 12) the sum of the dice is called the *point*.
5. Player continues to roll until a 7 or the point appears. If player rolls the point, they **win**; otherwise, if the player rolls a 7, they **lose**.

### 2.1 Java Craps

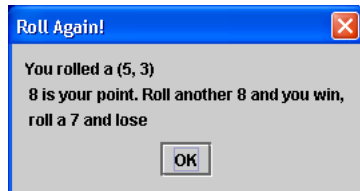
Create a new file called `Craps.java` in your `Lab6` directory. Your program will play a simple game of craps using the rules described in the previous section. The program should start by displaying a welcome message in a dialog window indicating the programmer's name, as seen in figure 1(a). Once the user clicks on `OK` the game should simulate rolling the dice. On every roll, your program must display a new dialog window indicating the roll and the status of the game. For example, if the user rolls a 7 or 11 on the first roll, the dialog window should tell the user they have won. If the user rolls a 2, 3, or 12 on the first roll, the dialog window should tell the user they have lost, as seen in figure 1(b). Otherwise the the dialog window should display the point and tell the user to roll again, as seen in figure 1(c). The game will continue as described by the rules until the user wins or loses. Note the dialog window changes with the game, as seen in figure 1. If the user wins or loses the *exclamation icon* is displayed; otherwise, no icon is displayed. Furthermore, the *title* of each dialog window indicates the current game status. See <http://java.sun.com/j2se/1.3/docs/api/javaw/swing/JOptionPane.html> for more details on the `JOptionPane` and dialog windows.



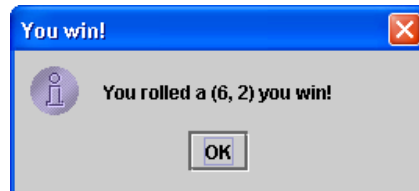
(a) Welcome message.



(b) User rolls a 3 on the first roll and loses.



(c) User rolls an 8 on the first roll and must roll again. The point is displayed and instructions on how to win or lose.



(d) User rolls the point and wins.

Figure 1: Example dialog windows for the craps game.

### 3 Turn-In Checklist

*Exactly what do I turn-in to receive credit for this lab?* **All code must** adhere to the style guidelines specified for this course. Submit the following electronically **and** give print-outs to your TA

- Your craps program called `Craps.java`
  - Test your program to be certain it works correctly.
  - Make certain the output is as described in the assignment.

**All work is due at the end of your lab!**  
**No late work will be accepted!**