Craps Game Algorithm- Final Project

**Rules**

In this game, the user simulates **rolling two dice**. If the user rolls a 2,3, or 12 on the **first roll**, they lose. If the user rolls a 7 or 11 on the **first roll**, they win. If they roll anything else on the **first roll**, that value is considered **"point"** and the user must *continue to roll the dice*, until either they **roll the point again** (in which case *they win*), or they **roll a seven**, in which case *they lose.*

**Additional Features: (**OPT = Optional things)

* The ability to place bets
* Using text based images / Dice Unicode
* OPT. Allowing multiple players
* Exports scores and bets into a text file
* OPT. Maybe use JOptionPane to make the program look nicer
* OPT. Look up how to add animated gifs to program

**Solution**

* Use a double dice object that will generate values and then determine the conditions that one will win or lose.

**UML for Craps Game**

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| --- |
| Double Dice |
| -sides: int  -firstroll : boolean |
| +getfirstroll() : boolean  +getsides() : int  +setroll(boolean state): void  +setsides(int sidenum) : void  **+rolldice() : int**  +showdicepic : void  +showdice : void  **+customroll : int** |

**Implementation**

Double dice is created to replicate the random dice variables for the game. All other features and functionality should be accomplished in the game. The “default” constructor for this variable sets side values to 12. The roll function generates a random number value between 2 -12. First roll is simply a true or false. The main code should determine what wins and what doesn’t when.

**Changes** (Updated 11-20-14):

**+rolldice()** no longer accepts arguments and now just outputs a face value

**+customroll()** If the user wants to play craps with a 20 sided die then the user can. This roll rolls the die based on the amount of sides present

(Updated 12-7-14)

**-FACEX** final private values that hold the unicode dice images

All methods finalized, cleaned and documented

UML update

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| --- |
| Double Dice 12-7-14 |
| -sides: int  -firstroll : boolean |
| +DoubleDice();  +DoubleDice(int s, Boolean fr)  +getfirstroll() : boolean  +getsides() : int  +setroll(boolean fr): void  +setsides(int s) : void  +rolldice() : int  +showdicepic(int face) : void  +showdice() : void  +customroll() : int |

**Research:**

Unicode Dice Face images.   
<http://mathematica.stackexchange.com/questions/34861/nice-formatting-for-the-results-of-a-dice-game-simulation>  
  
<http://www.unicode.org/charts/PDF/U2600.pdf>  
  
<http://www.binaryhexconverter.com/hex-to-decimal-converter>  
  
<https://support.office.com/client/insert-ASCII-or-Unicode-Latinbased-symbols-and-characters-d13f58d3-7bcb-44a7-a4d5-972ee12e50e0>