Laboratory 10

CS 1323, Spring 2015

# Learning Objectives

1. Use a nested if statement in a program. (10 points)
2. Create at least two meaningful methods, in addition to the main method. (20 points)
3. Use logical operators (&&, || or !) in a program. (20 points)
4. Generate a random number between 1 and 10 (inclusive) using the Random class. (10 points)
5. Implement the logic of a simple slot machine correctly. (30 points)

10 points will be awarded for the documentation of your program. That means using good names for variables, proper and consistent indentation of code, sufficient comments and meaningful use of whitespace.

Section 10: When your program is completed and running, have the teaching assistants check it to get credit for the lab. If you do not complete the laboratory during the allotted time, you may submit it on Janux before Wednesday, April 1 at 11:59 p.m. Only people who attend the whole laboratory will be permitted to submit assignments on Janux.

Section 1: Submit your finished project on Janux by Wednesday, April 1 at 11:59 p.m.

# Description

In this laboratory you will write a simplified version of a slot machine. Although physical slot machines can be used for gambling, we are not gambling in this class. We are playing for points only[[1]](#footnote-1).

Here is how a simple slot machine works: Three numbers between 1 and 10 are drawn randomly. If all three numbers match you win 75 points. If the numbers are all 7, you win 750 points. If two numbers match, but not three, you win 5 points. If you have two 7s (but not three 7s), then you win 20 points. If no numbers match, then you lose one point.

The user interface can be very simple:

*Your numbers are: 5 7 1*

*I’m sorry but you lost a point*

Here is a more lucrative turn:

*Your numbers are : 5 7 5*

*Congratulations! You won 5 points!*

The program should play repeatedly until the user chooses to quit, or the user loses all of their money.

# Improving Game Play

You can do a lot to make this program more fun to play. The suspense of watching the wheels on a slot machine rotate builds excitement. A way to emulate that is to print out some random digits with a time delay before you choose your final digit. The program below will print out the number 1 twenty times with a 1 second delay. Tweak this to make the play really fun.

**import** java.util.concurrent.TimeUnit;

**public** **class** TimeDelay {

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

**int** count=0;

**while** (count < 20)

{

System.*out*.print( 1 + " ");

TimeUnit.*SECONDS*.sleep(1);

}

}

}

Also notice that there is a throws clause after the main program declaration (throws InterruptedException). This is required to inform the world that this process is going to sleep (i.e. be unable to respond for a while).

You can make the game even more fun by having the first number appear quickly, the second number more slowly and the third even more slowly. It also might be more fun if the random digits were one to a line, so you didn’t know when the last digit was occurring. These are all standard tricks in the gambling industry.

1. Do not use this program for gambling money. And while we’re at it, be careful about gambling in general. It is an activity that can be addictive and can have disastrous consequences for your future. If you haven’t gambled before, you don’t know if you’ll become addicted. Keep your future safe. [↑](#footnote-ref-1)