Programming Assignment #6 :: 20 Points

For this program, you are going to convert decimal (integer) numbers into their octal number equivalents.

You can read about decimal-to-octal number conversions at the following address:

http://en.wikipedia.org/wiki/Octal

The input to the program will be a non-negative integer number. If the number is less than or equal to 32767, convert the number to its octal equivalent. If the number is larger than 32767, output the phrase “UNABLE TO CONVERT”.

The output of your program will be a 5-digit octal number with no spaces between any of the digits. It may help to think that you may output each digit of the octal number individually as you calculate it, as long as you don't put spaces or new lines in your output between each digit.

Here are a few examples of decimal numbers and their octal number equivalents:

Decimal Number (the input from the user) Octal Equivalent (what your program would output)

0 00000

1 00001

2 00002

3 00003

63 00077

64 00100

65 00101

123 00173

1000 01750

10000 23420

20000 47040

32766 77776

32767 77777

# **Goals**

* More (and slightly different) practice using the / and % operators
* Learn about the octal number system
* Use arithmetic to calculate and output the correct equivalent of the entered decimal number.

**Class and File Naming**

* Name your class Octal\_StudentID and source file Octal\_StudentID.java, using your student ID. For example, for student ID 20190001, they would create a class Octal\_20190001.

**How to Submit Your Code**

* First, create a directory of your program (JAVA source code) using a mkdir command.
* Second, change the current directory to the directory you create in the first step using a cd command.
* Third, make sure you are currently in the directory you make using a pwd command.
* Forth, use a turin command to submit your program after you compile and test it.

**Sample Program Run (user input is underlined)**

Please enter a number between 0 and 32767 to convert: 2000

Your integer number 2000 is 03720 in octal.

**Sample Program Run (user input is underlined)**

Please enter a number between 0 and 32767 to convert: 50000

UNABLE TO CONVERT