**Unit 3 Homework/lab3**

Go over key concepts at:

<https://csawesome.runestone.academy/runestone/books/published/csawesome/Unit3-If-Statements/topic-3-8-summary.html>

Practice problems at:

<https://csawesome.runestone.academy/runestone/books/published/csawesome/Unit3-If-Statements/topic-3-9-practice-mixed-code.html>

<https://csawesome.runestone.academy/runestone/books/published/csawesome/Unit3-If-Statements/topic-3-10-practice-coding.html>

<https://csawesome.runestone.academy/runestone/books/published/csawesome/Unit3-If-Statements/Exercises.html>

<https://csawesome.runestone.academy/runestone/books/published/csawesome/Unit3-If-Statements/magpie-exercises.html>

**Lab:**

**Boolean expressions:**

1. Using the Math class, assign a random number between 1 and 10 to an int variable. Print the number, use a second print statement to check if the number you generated is even or odd (print True for even, False for odd). Hint: use the % operator and the == operator within your code.

**Conditional expressions:**

1. Repeat question 1, Use an if-else statement to print whether the number generated is even or odd.
2. Add a nested if statement to the statement you wrote in question 2. Check and print whether the number you generated is also divisible by 3. Tip: Use pseudocode to make sure you are using the right logic for the question
3. Assign a random number to between -10 and 10 to an int variable. If the number is greater than 0, Check if it is even or odd and if it is divisible by 3. If the number is 0, print that it is 0. If the number is negative, print that it is negative and use a method from the Math class to find its absolute value. You can build upon the code from question 3
4. Generate a random number between 1 and 10 and assign it to an int variable. Use compound Boolean expressions to check whether it is divisible by 2 and 3, just 2, just 3, or neither. Print your results.

**General Problems (scanner class):**

1. Write a program that asks a user to enter an integer. Check if the integer entered is even or odd and print out the results.
2. Create a program that takes in a temperature (in numbers) and whether its Celsius or Fahrenheit and output the temperature in Fahrenheit or Celsius. (For example, if the user inputs 100 F the output will be 38 C)
3. Write a program that tells the user how many players are on the feild during gameplay in the following sports: Basketball, Hockey, Soccer, Baseball, Football. (for example: if the user enters basketball, the output will be “5 players per team”).