# .NET DELIVERABLE 2

## COUNTING HEADS OR TAILS

Flipping a coin takes time. Luckily C# is extremely fast at simulating coin flips. In your second deliverable of Lab 1, you're going to write a program to do just that.

The same information we shared in Deliverable 1 applies:

> Disclaimer**:** A large part of being a developer is researching and understanding new mechanics and concepts of coding. Every developer, even a seasoned veteran, needs to look up and research coding concepts. As such, for this exercise, you may need to do some research.

Here are a few hints:

- For any programming language, Google and Stack Overflow will be your go-to sites for learning about code.
- Google is good at answering common questions, Stack Overflow is good for troubleshooting and reading issues other programmers have encountered.

Put this project in its own repo on GitHub and submit the GitHub link in the Turn In Deliverable 2 spot in the LMS.

# COUNTING HEADS OR TAILS

**Task:** Write a program that takes in a word (“heads” or “tails”) and number from the user. The number will represent how many coin flips the program outputs. Output the result of each coin flip on its own line, followed by the number and the percentage of total correct guesses.

**Build Specifications:**

- Declare three variables:
    - **headsOrTailsGuess** will hold the user’s string head or tail input from the console.
    - **numberOfFlips** will hold the user's number input for how many times to flip a coin.
    - **correctCount** will hold the total number of correct guesses.
- Repeat coin flips based on the number of flips entered by the user (use the **numberOfFlips** variable). Each time:
    - Generate a random number and use it to determine whether to show heads or tails.
    - Output each flip result (heads/tails) on its own line.
    - Keep a total number of correct guesses in the **correctCount** variable.
- At the end
    - Output the user's guess as "heads" or "tails".
    - Output how many times their guess came up (**correctCount**).
    - Output the percentage of flips that matched their guess. (Hint: this is the number correct divided by total flips; multiply by 100 to show as a percentage).

HINT #1: Use the **Random** class to generate a new number each time.

**Example run (user input in bold):**

```
Guess which will have more: heads or tails? heads
How many times shall we flip a coin? 5

tails
heads
heads
tails
tails

Your guess, heads, came up 2 time(s).
That's 40%.
```

**Grading Rubric:** This is graded out of 10 points. You must score 8 or more points on each deliverable in Lab 1 to pass.

**1 point each.** No partial credit is allowed on an individual point. Credit will be granted for any points that are written correctly themselves but don't run correctly because of a problem elsewhere in the program.

1. Correctly gets user input from the console.
2. Stores first user input in a variable named **headsOrTailsGuess**.
3. Stores second user input in a numeric variable named **numberOfFlips**.
4. Loops the correct number of times.
5. Generates random numbers each time.
6. Correctly generates and displays a random heads or tails each time.
7. Adds to **correctCount** accurately.
8. Displays the user choice at the end (either heads or tails).
9. Displays the correct count at the end.
10. Displays the correct percentage at the end.

**Grading Scale:**

8 or above Passing
Below 8: Not Passing