Matlab Coding Exercises
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Part I

1. Work through the matlab handout.

2. Plot your favorite function using matlab.

3. Write a function handle f for a quadratic polynomial. Plot the polynomial. What's the difference between a function and a function handle?

4. What is the difference between a row vector and a column vector? Can you change one to the other and vice versa? How so?

5. Write down an example of a matrix. How is the sizing of the matrix determined? Write down a 2×3 matrix A.

6. If I want to square all the elements in the matrix A you just created above, how would I do so?

7. What's the difference between the $.*$ and $*$ operator when multiplying two vectors? Are they the same? i.e. does $x.*y = x*y$ for any two vectors? Why or why not?

Part II

1. Write a "for" loop that outputs each number from 1 to 10.

2. Write a "for" loop that sums the numbers from 1 to N, where N is input chosen by the user.

3. Write a "for" loop that takes a product of the numbers from 1 to N, where N is input chosen by the user.

4. Repeat 1, 2, and 3 using a "while" loop.

5. Sum all of the numbers from 1 to 100 in two different ways. Using your code. And then by adding two appropriately chosen vectors and then summing the entries.

6. Type "help randi" at the matlab prompt. Can you think of a way to create the coin flip probability experiment with 2 coins using this function? How's about the 4 coin flip experiment? Write out pseudo-code for this experiment.

7. Write a script that uses the randi function and calculate the probabilities for the coin flip problem with 2 coins, 4 coins, and N coins. Here, N is input by the user.