Q1

Consider the following regression problem. There is a sequence of words representing positive integers, e.g.

```
["three", "one", "four", "one", "five", "two", "five", "three", "five"]
```

and we want to know the *product* of the associated numbers. The result for the above example should be 9000.

Construct, manually, a RNN structure and associated weights that will solve this problem. This should be in the form of a flowchart identifying inputs and outputs, weights, sums, and activation functions, along with any necessary auxiliary text. Assume that the numbers are in $[1, 5]$ (but as their string names). Note that your activation functions can be any *scalar* function.

HINT: $\log(xy) = \log(x) + \log(y)$

You may work in a group of 1 or 2. Submissions will be graded without regard for the group size. You should turn in a document (`.txt`, `.md`, or `.pdf`) answering all of the red items above. You should also turn in Python scripts (`.py`) for *each* of the blue items.