Problem Set 3, Problems 0 and 1

Problem 0: Reading and response

Put your response to the reading below.

The most preventable factor within the bug's origin is to completely turn off the calculation instead of keeping it on for another 40 seconds which is useless and redundant anyways as it is only designed for the prep-launch guiding system. This could prevent the bug from happening and ultimately the explosion of the rocket.

I disagree with the statement because I think they are intertwined with one another. There could be errors and miscalculations in inputs for mechanical systems as well which could lead to failure the same way as software systems.

Problem 1: Tracing list comprehensions and recursion

1-1

w	scored_words
'python'	[['y', 'python'],
‘is’	[[‘y’, ‘python’], [‘s’, ‘is’],
‘really’	[[‘y’, ‘python’], [‘s’, ‘is’], [‘e’, ‘really’],
‘great	[[‘y’, ‘python’], [‘s’,‘is’], [‘e’, ‘really’], [‘r’, ‘great’]]

1-2 value assigned to `best_pair`

[‘y’, ‘python’]

1-3 value returned by `mystery1`

python

1-4

```
mystery2('intent')
    s = 'intent'
    result_rest = mystery2('ntent') = ‘tneni’
    return ‘tneni’

    mystery2('ntent')
        s = 'ntent'
        result_rest = mystery2(‘tent’) = ‘tnet’
        return ‘tnetn’

        mystery2(‘tent’)
            s = ‘tent’
            result_rest = mystery2(‘ent’) = ‘tne’
            return ‘tnet’

            mystery2(‘ent’)
                s = ‘ent’
                result_rest = mystery2(‘nt’) = ‘tn’
                return ‘tne’

                mystery2(‘nt’)
                    s = ‘nt’
                    result_rest = mystery2(‘t’) = ‘t’
                    return ‘tn’

                    mystery2(‘t’)
                        s = ‘t’
                        Base case
                        return ‘t’
```

1-5

tneni