Midterm Review

This Midterm Review covers the following topics: And/Or Practice, List Comprehension, What Would Python Do, Function Evaluation, Function Implementation

1   And / Or Practice

```
>>> 1 and 2
```
2

```
>>> "h" or "i"
```
"i"

```
>>> (2+3)%5 or 3
```
3

```
>>> 0 or 0 or 0 or 1 or 0 or 0
```
1

```
>>> 0 and 0 and 1 and 0 and 0
```
0

```
>>> 2**3 if 5 % 2 else 77
```
8

```
>>> 74 or 5/0
```
74

2   List Comprehensions

```
>>> lst = [1, 2, 3, 4]
>>> lst = [0, 1] + lst + lst + [2, 3]
>>> lst
```
[0, 1, 1, 2, 3, 4, 1, 2, 3, 4, 2, 3]

```
>>> lst[:2] + lst[7:] + lst[5:-1]
```
[0, 1, 2, 3, 4, 2, 3, 4, 1, 2, 3, 4, 2]

3 What Would Python Do

3.1 Question 1

```
x, y, z = (1, 2, 3)
def s(z, x):
    return y - x(z)
def pas(cs88):
    return cs88 // 10 + cs88 % 10
x = [s(i+y+z, pas) for i in range(10, 13)]
```

What is x?
[-4, -5, -6]

3.2 Question 2

```
>>> def foo(x):
...     def f(y):
...         def g(z):
...             return x + y * z
...         return g
...     return f
>>> foo(5)(4)(3)
```

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4 Function Implementation

Write a function that takes in a positive integer as an input and computes the sum of the square of its digits using recursion.

```
def sumOfDigitSquares(n):
    if n == 0:
        return 0
    return (n%10)**2 + sum_of_digit_squares(n//10)
```