Homework-02

Neural Networks - Feedforward pass

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I successfully implemented neural network class and passed all logic gate test cases. Here's the result.

1. AND gate

    structure: [2,1]

    theta: {[[-1.5], [1], [1]]}

```
In [7]: And = AND()
        #print(And.nn.theta)
        print(And(True, True))
        print(And(True, False))
        print(And(False, True))
        print(And(False, False))
```

```
True
False
False
False
```

2. OR gate

    structure: [2,1]

    theta: {[[-0.5], [1], [1]]}

```
In [8]: Or = OR()
        #print(Or.nn.theta)
        print(Or(True, True))
        print(Or(True, False))
        print(Or(False, True))
        print(Or(False, False))
```

```
True
True
True
False
```

3. NOT gate
    structure: [1,1]
    theta: {[[0.5], [-1]]}

```
In [9]: Not = NOT()
        #print(Not.nn.theta)
        print(Not(False))
        print(Not(True))
```

```
True
False
```

4. XOR gate
    structure: [2,2,1]
    theta: {[[-50,-50], [100,-100], [-100,100]], [[-0.2], [1], [1]]}

In [10]:

```
Xor = XOR()
#print(Xor.nn.theta)
print(Xor(True, True))
print(Xor(True, False))
print(Xor(False, True))
print(Xor(False, False))
```

```
False
True
True
False
```