# hw3.py

October 29, 2018

#### 0.0.1 Name: Jaymo Kim

#### 0.0.2 hw3.py

```
In [1]: import math
        import random
```

#### 0.0.3 Template for Homework 3, exercises 1 -

#### 0.0.4 ********** Exercise 1 **********

**Define is_divisible function here**

**YOUR CODE HERE**

```
In [2]: def is_divisible(m, n):
            if(n == 0):
                return("Error! You cannot divide by 0!")
            else:
                return(m % n == 0)
```

**Test cases for is_divisible**

**Provided for you... uncomment when you're done defining your function**

```
In [3]: print(is_divisible(10, 5))  # This should return True
        print(is_divisible(18, 7))  # This should return False
        print(is_divisible(42, 0))  # What should this return? It gives an error!
```

```
True
False
Error! You cannot divide by 0!
```

#### 0.0.5 ********** Exercise 2 **********

**Define not_equal function here**

**YOUR CODE HERE**

```
In [4]: def not_equal(a, b):
            if(a == b):
                return(False)
            else:
                return(True)
```

**Test cases for not_equal**

**YOUR CODE HERE**

```
In [5]: print(not_equal("hi", "hello"))  # This would return True
        print(not_equal(1004, 1004))  # This would return False
        print(not_equal(True, False))  # This would return True
```

```
True
False
True
```

#### 0.0.6 ********** Exercise 3 **********

**1 - multadd function**

**YOUR CODE HERE**

```
In [6]: def multadd(a ,b, c):
            return(a * b + c)
```

**2 - Equations**

**YOUR CODE HERE**

```
In [7]: print(multadd(1, 2, 3))  # This should return 1 * 2 + 3 = 5
        print(multadd(10, 10, 10))  # This should return 10 * 10 + 10 = 110
        print(multadd(0.5, 4, 0.7))  # This should return 0.5 * 4 + 0.7 = 2.7
```

```
5
110
2.7
```

**Test Cases**

```
In [8]: angle_test = multadd(0.5, math.cos(multadd(math.pi, 0.25, 0)), math.sin(multadd(math.pi
        print("sin(pi/4) + cos(pi/4)/2 is:")
        print(angle_test)

        ceiling_test = multadd(2, math.log(12, 7), math.ceil(multadd(276, 1/19, 0)))
        print("ceiling(276/19) + 2 log_7(12) is:")
        print(ceiling_test)
```

```
sin(pi/4) + cos(pi/4)/2 is:
1.0606601717798214
ceiling(276/19) + 2 log_7(12) is:
17.55397881653925
```

### 0.0.7 ********** Exercise 4 **********

**1 - rand_divis_3 function**

**YOUR CODE HERE**

```
In [9]: def rand_divis_3():
            ran = random.randint(0, 100)
            return(ran % 3 == 0)
```

**Test Cases**

**YOUR CODE HERE**

```
In [10]: print(rand_divis_3())
         print(rand_divis_3())
         print(rand_divis_3())
         print(rand_divis_3())
         print(rand_divis_3())
         # I hope one of these tests returns True...
```

```
True
True
True
False
True
```