**Week 10 Paper Practice**

For each of the following snippets of code, execute it by hand. Show exactly what is output by the code.

1. 
   ```
   x = 32  
y = x+4  
if y > x :  
   print("y = ",str(y), "\n")
   ```

2. 
   ```
   x = 0  
while x < 4:  
   print(x)  
   x = x + 1
   ```

3. 
   ```
   x = 0  
while x <= 6 :  
   print(x)  
   x = x + 2
   ```

4. 
   ```
   x = 40  
while x <= 45 :  
   if x > 42 :  
      print("x = ",str(x))  
   else :  
      print("x is small ")  
   x = x + 1
   ```
For this problem, you’ll need to know that the percent sign is the “modulus” operator which computes the remainder after division. For example, $6 \% 2$ is zero because 2 divides evenly into 6, but $6 \% 4$ is 2 because that’s what’s left over after you divide 6 by 4 if you can only use whole numbers. Remember back to third grad when you were learning division. The mod operator returns what comes after the “R” in your long division.

5.

```python
x = 0
while x < 10 :
    if x%2 == 0 :
        print(str(x)," is even")
    x = x + 3
```

6.

```python
x = 23
while x > 1 :
    print(x)
    if x%2 == 0 :
        x = x/2
    x = x - 3
```

7.

```python
x = 0
while x < 4 :
    y = 3
    while y > 0 :
        print(x , "," , y)
        y = y - 1
    print("Finished inner loop")
    x = x + 1
```