CSPP Week - 16

Time: 1 Hour **Score: 40 Points**

1. What does each of these statements print? Suppose that a is 3.14159.

20 * 0.5 = 10 Points

a. print(2 + 3) b. print(2.2 + 3.3) c. print('2' + '3') d. print('2.2' + '3.3') e. print(str(2) + str(3)) f. print(str(2.2) + str(3.3)) g. print(int('2') + int('3')) h. print(int('2' + '3')) i. print(float('2') + float('3')) j. print(float('2' + '3'))	k. print(int(2.6 + 2.6)) l. print(int(2.6) + int(2.6)) m. print(a) n. print(a + 1.0) o. print(8 // int(a)) p. print(8.0 / a) q. print(int(8.0 / a)) r. print(float(int(a))) s. print(int(float(a))) t. print(int(str(a)))

2. Solve the following expressions and determine the answer for each:

11 * 1 = 11 Points

   a. ((4 * 3) - (5 ** 2 % 6) == 10) and (not (12 // 5 == 2))
   b. (((9 - 4) * 2) < (8 ** 0)) or ((15 % 5 == 0) and (7 - 3 >= 4))
   c. (((8 + 3) // 2) * 3 == 15) or ((18 % 7) + 1 > 5)
   d. not ((12 - (4 + 2)) == 6) and ((8 / 2) * 3 == 12)
   e. not ((3 ** 2) + 4 == 13) and ((14 // 3) + (6 % 4) != 6)
   f. ((10 - (3 * 2)) + 6 > 8) and not ((8 + 4) % 3 == 0)
   g. (not ((5 * 4) / 10 > 2)) or ((3 ** 2 - 1) <= 8)
   h. (((14 % 5) * 2) <= 8) and (((3 ** 3) - 9) > 20)
   i. ((2 ** 3) + 1 != 9) and (((6 + 3) // 2) == 4)
   j. (((16 // 4) + 7) < 12) or ((2 ** 3) - (9 // 3) == 5)
   k. ((7 * 2) - 4 > 10) or not ((5 ** 2) / 5 == 5)

3. Given that three dictionaries are originally set up with the following code:

18 * 0.5 = 9 Points

```
D1 = {"name": "Alice", "age": 25}
D2 = D1
D3 = {"name": "Alice", "age": 25}
```

Fill out the following table so that it shows the values in each dictionary after the line of code in the left column has run. Any changes made should be cumulative (if D1 is changed in row 1, the change should carry over to row 2).

Code	Dictionary D1	Dictionary D2	Dictionary D3
Initial State	{"name": "Alice", "age": 25}	{"name": "Alice", "age": 25}	{"name": "Alice", "age": 25}
D1["age"] = 30			
D2["city"] = "NY			
D3["name"] = "Bob"			
D1["name"] = "Eve"			
D2 = {"name": "Carol", "age": 22}			
D3["city"] = "LA"			

4. Trace the following code snippets and justify your answers **4 * 2.5 = 10 Points**

a.
```
total = 0
for i in range(1, 6):
    if i % 2 == 0:
        total += i
    else:
        total -= i
print("Final Total:", total)
```

b.
```
n = 10
counter = 0
while n > 1:
    if n % 3 == 0:
        n -= 1
    else:
        n //= 2
    counter += 1
print("Counter:", counter)
```

c.
```
x = 15
y = 10
z = 5
if x > y and y > z:
    x = x + y
elif x < y:
    y = y + z
else:
    z = z + x
print("x:", x, "y:", y, "z:", z)
```

d.
```
def evaluate_number(n):
    total = 0
    for i in range(1, n + 1):
        if i % 2 == 0:
            total += i
        elif total > 10:
            return "Exceeded"
        else:
            total += i * 2
    if total > 20:
        return "High"
```