# Topic 02 Quiz Practice

CSCI040: ~~Computing for the Web~~ Introduction to Hacking

**NOTE:**

1. The quiz is designed to test your ability to read python code and evaluate it manually.
2. There will be 5 problems Each problem will follow the form of one of the problems below. I will change the numbers/operators to ensure that you understand how to walk through evaluating python code manually.
3. Recall that this quiz can be retaken once with no penalty. There will be about 10 more quizzes in this class, and of those 10, only 1 can be retaken.
4. Study hard and do well on this quiz. All future material in class assumes that you can complete problems similar to these perfectly!

**Problem 1.** What is the output of the following code:

```
x = 2 // 3
y = x * 4
z = y + 5
print("z=", z)
```

**Problem 2.** What is the output of the following code:

```
x = 3 // 2
y = x % 4
z = y - 5
print("z=", z)
```

**Problem 3.** What is the output of the following code:

```
print(2 * 2 ** 2 + 3 * 4 % 2)
```

**Problem 4.** What is the output of the following code:

```
print(2 ** 2 * 2 // 3 - 4 + 2)
```

**Problem 5.** What is the output of the following code:

```
x = 4%5
y = 4//5
if x == 1 or y == 1:
    result = 0
else:
    result = 1
print('result=', result)
```

**Problem 6.** What is the output of the following code:

```
x = 4-5
y = 5-4
if x == 1 and y == 1:
    result = 0
else:
    result = 1
print('result=', result)
```

**Problem 7.** What is the output of the following code:

```
if '':
    result = 0
else:
    result = 1
print('result=', result)
```

**Problem 8.** What is the output of the following code:

```
if 1.0:
    result = 0
else:
    result = 1
print('result=', result)
```

**Problem 9.** What is the output of the following code:

```
i = 0
total = 0
while i < 5:
    total = total + i
print('total=', total)
```

**Problem 10.** What is the output of the following code:

```
i = 3
total = 0
while i < 8:
    total = total * i
print('total=', total)
```

**Problem 11.** What is the output of the following code:

```
i = 34567
total = 0
while i > 0:
    total += 1
    i //= 10
print('total=', total)
```

**Problem 12.** What is the output of the following code:

```
i = 123
total = 0
while i:
    total += 1
    i //= 10
print('total=', total)
```

**Problem 13.** What is the output of the following code:

```
total = 0
for i in range(5):
    total = total - 1
print('total=', total)
```

**Problem 14.** What is the output of the following code:

```
total = 0
for i in range(3, 5):
    total = total + 1
print('total=', total)
```

**Problem 15.** What is the output of the following code:

```
total = 42
for i in range(10, 15, 1):
    total %= i
print("total=", total)
```

**Problem 16.** What is the output of the following code:

```
total = 0
for i in range(10, 0, -2):
    total -= i
print("total=", total)
```

**Problem 17.** What is the output of the following code:

```
result = 1
for i in range(5):
    if i<3:
        result *= 1
    else:
        result *= (-1)
print('result=', result)
```

**Problem 18.** What is the output of the following code:

```
result = 1
for i in range(3, 5):
    if i<3:
        result += 1
    else:
        result -= 1
print('result=', result)
```

**Problem 19.** What is the output of the following code:

```
result = 1
for i in range(5):
    if i <= 3:
        result += i
    else:
        result += 1
print('result=', result)
```

**Problem 20.** What is the output of the following code:

```
result = 1
for i in range(5):
    if i > 3:
        result += i
    else:
        result += 1
print('result=', result)
```

**Problem 21.** What is the output of the following code:

```
total = 0
for i in range(10, 20, 5):
    if i%2 == 1 or i<15:
        total += i
print("total=", total)
```

**Problem 22.** What is the output of the following code:

```
total = 0
for i in range(0, 10, 3):
    if i%2 == 0 or i<5:
        total += i
print("total=", total)
```

**Problem 23.** What is the output of the following code:

```
x = 5
def foo():
    print('hello')
    return 1
x += foo()
print("x=", x)
```

**Problem 24.** What is the output of the following code:

```
x = 5
def foo():
    print('hello')
    return 1
```

**Problem 25.** What is the output of the following code:

```
x = 5
def foo():
    print('hello')
    return 1
x = foo
```

**Problem 26.** What is the output of the following code:

```
x = 5
def foo(y):
    print('hello')
    return y*2
x += foo(3)
print("x=", x)
```

**Problem 27.** What is the output of the following code:

```
x = 5
def foo(y):
    print('hello')
    return y*2
x += foo(3)
x += foo(2)
x += foo(1)
print("x=", x)
```

**Problem 28.** What is the output of the following code:

```
x = 5
def foo(y, z):
    print('hello')
    return y*z
x += foo(3, 4)
print("x=", x)
```

**Problem 29.** What is the output of the following code:

```
x = 5
def foo(y, z):
    print('z=', z)
    return y
x += foo(3, 4)
x += foo(4, 3)
print("x=", x)
```

**Problem 30.** What is the output of the following code:

```
x = 5
def foo(y, z):
    print('z=', z)
    return y
x += foo(y=3, z=4)
x += foo(z=4, y=3)
print("x=", x)
```

**Problem 31.** What is the output of the following code:

```
x = 5
def foo(x):
    x += 1
    return x
x += foo(4)
x += foo(5)
print("x=", x)
```

**Problem 32.** What is the output of the following code:

```
x = 5
def foo(x):
    x += 1
    return x
x += foo(9 + 19 // 10) + 3
print("x=", x)
```

**Problem 33.** What is the output of the following code:

```
x = 5
def foo(x):
    x += 1
    return x
x += foo(9 + foo(19) // 10) + 3
print("x=", x)
```

**Problem 34.** What is the output of the following code:

```
x = 5
def foo(x):
    if x % 2:
        return 1
    else:
        return 2
x += foo(4)
x += foo(5)
x += foo(6)
print("x=", x)
```

**Problem 35.** What is the output of the following code:

```
x = 5
def foo(x):
    if x % 2:
        return 1
    x -= 1
    return x
x += foo(4)
x += foo(5)
x += foo(6)
print("x=", x)
```

**Problem 36.** What is the output of the following code:

```
x = 5
def foo(x):
    if x:
        return 1
    else:
        return -1
x += foo(4)
x += foo(0)
x += foo('')
x += foo('test')
x += foo("")
x += foo(False)
print("x=", x)
```

**Problem 37.** What is the output of the following code:

```
x = 5
def foo(x):
    res = 0
    for i in range(x):
        res += 1
    return res
x += foo(1)
x += foo(2)
x += foo(3)
print("x=", x)
```

**Problem 38.** What is the output of the following code:

```
x = 5
def foo(x):
    res = 0
    for i in range(x):
        if i:
            res += 1
    return res
x += foo(1)
x += foo(2)
x += foo(3)
print("x=", x)
```

**Problem 39.** What is the output of the following code:

```
x = 5
def foo(x):
    res = 0
    for i in range(x):
        res += 1
    return res
for i in range(3):
    x += foo(i)
print("x=", x)
```

**Problem 40.** What is the output of the following code:

```
x = 5
def foo(x):
    res = 0
    for i in range(x):
        res += 1
    return res
for i in range(3):
    x += foo
print("x=", x)
```

**Problem 41.** What is the output of the following code:

```
def foo(x):
    total = 0
    while x > 0:
        total += 1
        x //= 10
    return total
x = foo(100)
x += foo(1234567)
x += foo(3)
print("x=", x)
```

**Problem 42.** What is the output of the following code:

```
def foo(x):
    total = 0
    while x > 0:
        total = total + x % 10
        x //= 10
    return total
x = foo(100)
x += foo(1234567)
x += foo(3)
print("x=", x)
```