Dry Coding Exercises

Exercise 1: Trace the Values

What are the final values of `x`, `y`, and `z` after executing this code?

```
x = 3
y = x + 2
z = y * x
y = z - x
x = x * 2
```

Output:
x = 6
y = 12
z = 15

Exercise 2: Nested Conditionals

Predict the output of the following code for different values of `n`:

```
n = 15  # Try different values like 5, 10, 20

if n > 10:
    if n % 2 == 0:
        result = "Even and greater than 10"
    else:
        result = "Odd and greater than 10"
else:
    result = "5 or below"

if n > 5:
    result = "Between 6 and 10"

print(result)
```

Output:
Between 6 and 10

- What is the output when `n = 5`?   5 or below

- What is the output when `n = 10`? Between 6 and 10

- What is the output when `n = 20`? Between 6 and 10

Exercise 3: Counting in a Loop

What is the final value of `count` after the loop executes?

```python
count = 0
for i in range(2, 10, 2):
    count += i
```
Output: 20

Exercise 4: While Loop with Multiple Conditions

How many times does this loop execute, and what is the final value of `n`?

```python
n = 50
while n > 1:
    if n % 2 == 0:
        n //= 2
    else:
        n -= 1
```
Number of executions: 7 times
Final value of n = 1

Exercise 5: Loop and Conditional Combination

What does this program print? -3

```python
x = 0
for i in range(1, 6):
    if i % 2 == 0:
        x += i
    else:
        x -= i
print(x)
```