

# CPSC 250 – Python for Data Manipulation – Summer 2025 Test 1

Topics: Primitive Data Types, Lists & Tuples, Branching, Loops

## Part I – Multiple Choice (10 points)

Circle the best answer. Each question is worth 2 points.

1. What is the result of `10 // 3`?
  - A. 3.33
  - B. 3
  - C. 4
  - D. 1
2. Which of the following is a valid Python list?
  - A. `[1, 2, 3]`
  - B. `(1, 2, 3)`
  - C. `{1, 2, 3}`
  - D. `"1, 2, 3"`
3. What is the result of `int("5") + 3`?
  - A. 8
  - B. "53"
  - C. Error
  - D. 5
4. Which of the following correctly checks if `x` is between 10 and 20 (inclusive)?
  - A. `x >= 10 and x <= 20`
  - B. `10 <= x <= 20`
  - C. Both A and B
  - D. Neither A nor B
5. What is the output of the following code? `t = (1, 2, 3, 4); print(t[2])`
  - A. 1
  - B. 2
  - C. 3
  - D. 4

## Part II – Find the Error (15 points)

Each of the following code snippets contains one or more errors. Identify and correct them.

6. `numbers = [10, 20, 30, 40]`  
`print(numbers[4])`

7. `for i in range(1, 5)`  
`print(i * 2)`

8. `count = 5`  
`while count > 0:`  
`print(count)`  
`count = count - 1`

## Part III – Code Writing (20 points)

Write Python code for each of the following tasks.

9. Write Python code that asks the user to enter 10 integers, then calculates and prints the sum of all numbers divisible by 3.

10. Write Python code that uses a loop to print the squares of the numbers from 1 to 10 inclusive, each on its own line.

## Part IV – Code Comprehension and Commenting (15 points)

The following program is complete but has no comments. Write comments to explain what each line does.

```
values = [2, 5, 9, 12, 3]
product = 1
for v in values:
    if v > 4:
        product *= v
print("Product of values greater than 4 is", product)
```

## Part V – Short Answer (10 points)

11. What happens if you try to access index 5 of a list with only 3 elements? Give an example and explain.

12. When should you use a tuple instead of a list in Python? Give an example.

**Total:** \_\_\_\_\_ / 70