Worksheet 08: Python For-Loop with List

Name: _____ Date: _____

Instructions

- Answer in the blanks.
- For “write code” questions, write valid Python code.
- For “what does it print” questions, write the exact output.

Part A — List Traversal

1) What does this print?

```
colors = ["red", "blue", "green"]

for c in colors:
    print(c)
```

Output:

```

```

2) The loop variable

Look at the code:

```
numbers = [5, 6, 7]

for x in numbers:
    print(x)
```

Fill in the blanks:

- On the **first** loop, `x` is _____
- On the **last** loop, `x` is _____

3) Complete the traversal code

Complete the code so it prints each animal with the words `I like`:

```
animals = ["cat", "dog", "bunny"]

for ____ in ___________:
    print("I like", ____)
```

Output:

```

```

4) Spot the indentation mistake

This code has a problem. Fix it.

```
numbers = [1, 2, 3]
for x in numbers:
print(x)
```

Write the corrected code:

```

```

Part B — Sum of a List

5) Fill in the blanks (sum)

Complete the code and estimate the output.

```
numbers = [4, 1, 3]

total = ____
for x in ___________:
    total = total + ____

print(total)
```

Output:

```

```

6) Running total (what does it print?)

```
numbers = [1, 4, 2]

total = 0
for x in numbers:
    total = total + x
    print(total)
```

Output:

```

```

7) Write code (sum)

Write code to compute the sum of this list and print `Sum = 45`

```
scores = [10, 20, 15]

# write your code here
```

Output:

```
Sum = 45
```

Part C — Max (Greatest) Number

8) Fill in the blanks (max)

Complete the code and estimate the output.

```
numbers = [5, 1, 8, 3]

m = numbers[0]
for x in numbers:
    if x ____ m:
        m = ____

print(m)
```

Output:

```

```

9) Max with negative numbers (what does it print?)

```
numbers = [-2, -5, -1, -3]

m = numbers[0]
for x in numbers:
    if x > m:
        m = x

print(m)
```

Output:

```

```

10) Write code (max)

Write code to find the greatest number in `temperatures` and print it.

```
temperatures = [72, 68, 75, 70]

# write your code here
```

Output:

```
75
```

Part D — Build a New List (Filter)

11) Pick evens (what does it print?)

```
numbers = [2, 3, 4, 5]

evens = []
for x in numbers:
    if x % 2 == 0:
        evens.append(x)

print(evens)
```

Output:

```

```

12) Fill in the blanks (multiples of 3)

Complete the code so that the output is a list of multiples of 3.

```
numbers = [3, 4, 6, 7, 9]

threes = []
for x in numbers:
    if x % ____ == ____:
        threes.append(____)

print(threes)
```

Output:

```
[3, 6, 9]
```

13) Write code (numbers greater than 5)

Build a new list `big` that only keeps numbers greater than 5.

```
numbers = [1, 8, 3, 10, 5]

# write your code here
```

Output:

```
[8, 10]
```

Part E — Reverse a List (Not In-Place)

14) Print in reverse order (what does it print?)

```
colors = ["red", "green", "blue"]

n = len(colors)
for i in range(n - 1, -1, -1):
    print(colors[i])
```

Output:

```

```

15) Make a reversed list (fill in the blanks)

Complete the code and estimate the output.

```
numbers = [9, 8, 7, 6]

rev = []
n = len(numbers)

for i in range(____, ____, ____):
    rev.append(numbers[____])

print(rev)
```

Output:

```

```

16) Challenge: Reverse words

Write code to create a new list `rev` that reverses `words`, then print `rev`.

```
words = ["I", "love", "Python"]

# write your code here
```

Output:

```
['Python', 'love', 'I']
```