Worksheet 30: Python Strings & Lists

Name: _____ Date: _____

Instructions

- Answer in the blanks.
- For “write code” questions, write valid Python code (no functions needed).
- For “what does it print” questions, write the **exact** output (line by line).
- Assume Python 3.

Part A — Strings and lists are both sequences

1) String → list of characters

What does it print?

```
s = "CAT"
chars = list(s)

print(chars)
```

Output:

```

```

2) List → string with `"".join(...)`

`.join()` is a string method that glues many strings together with a separator.

Here is an example:

```
l = ["A", "B", "C"]
s = "".join(l)
print(s)
```

Output:

```
ABC
```

Fill in the blanks:

```
letters = ["h", "e", "l", "l", "o"]

word = _____________________
print(word)
```

Expected output:

```
hello
```

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3) True / False (sequence facts)

Write **True** or **False**.

1. A string is a sequence of characters. _____
2. A list is a sequence of items. _____
3. You can change one character of a string using `s[0] = "X"`. _____
4. You can change one item of a list using `l[0] = "X"`. _____

Part B — `len()` and indexing

4) `len()` practice (what does it print?)

```
name = "Chelsea"
nums = [5, 4, 3]

print(len(name))
print(len(nums))
```

Output:

```

```

---

5) Indexing (what does it print?)

```
word = "PYTHON"

print(word[0])
print(word[3])
print(word[-1])
print(word[-2])
```

Output:

```

```

6) Last item (fill in the blanks)

Complete the code so it prints the last character of `s` and the last number of `nums`.

```
s = "GAME"
nums = [10, 20, 30, 40]

print(s[__________])
print(nums[__________])
```

7) Fix the bug (short answer)

This code crashes:

```
s = "hi"
print(s[2])
```

1. Is the code right or wrong? _____
2. Why? _____
3. Write ONE correct line of code to print the last character of `s`:

```

```

Part C — Slicing

8) Slice a chunk (what does it print?)

```
word = "ABCDEFG"

print(word[1:4])
print(word[:3])
print(word[4:])
```

Output:

```

```

9) Slice with step (what does it print?)

```
nums = [0, 1, 2, 3, 4, 5, 6, 7, 8]

print(nums[::2])
print(nums[1::3])
```

Output:

```

```

10) Reverse with `[::-1]` (what does it print?)

```
s = "racecar"

print(s[::-1])
```

Output:

```

```

11) Make slices (fill in the blanks)

Fill in the blanks:

```
word = "pineapple"

print(word[__________])
print(word[__________])
```

Expected output:

```
pine
apple
```

Part D — Lists can change (strings can't)

12) Update a list item (fill in the blanks)

You are given:

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

Fill in the blanks so the code changes `"blue"` to `"purple"` and then prints the list.

```
colors[__________] = "purple"
print(___________)
```

Output:

```

```

13) Try to update a string (short answer)

```
s = "blue"
s[0] = "g"
```

1. Will this work? (Yes/No) _____
2. If not, what kind of error happens? (TypeError, IndexError, or NameError) _____
3. Write correct code to make a NEW string `"glue"` from `"blue"`:

```

```

Part E — Mini tasks

14) Count the letter `"a"` (fill in the blanks)

Goal: print how many times `"a"` appears in `word`.

```
word = "banana"

count = __________

for ch in word:
    if ch == "a":
        count = __________

print(count)
```

Expected output:

```
3
```

15) Every 2nd character (fill in the blanks)

Goal: print `"HLO"`.

```
s = "HELLO"
print(s[__________])
```

16) Palindrome check using reverse (fill in the blanks)

A palindrome reads the same forward and backward.

Complete the code so it prints `True`.

```
s = "level"

print(s == __________)
```

Hint: In Python, you can reverse a string using slicing with a step of `-1`: `s[::-1]`. This creates a new reversed string and does not change the original string (strings are immutable).