

## Practice Sheet: strings

**Predict the output carefully before running the code. Focus on combining conditional statements with loop iterations for better problem-solving skills!**

1.

```
text = "education"
vowels = "aeiou"
result = ""
for ch in text:
    if ch in vowels:
        result = ch + result
    else:
        result += ch
print(result)
```

2.

```
text = "PyThOn ExErCiSe"
count = 0
for ch in text:
    if ch.isupper():
        count += 1
print(count * 2)
```

3.

```
word = "radar"
i, j = 0, len(word) - 1
is_palindrome = True
while i < j:
    if word[i] != word[j]:
        is_palindrome = False
        break
    i += 1
    j -= 1
print(is_palindrome)
```

4.

```
text = "programming"
new_text = ""
for i, ch in enumerate(text):
    new_text += ch.upper() if i % 2 == 0 else ch.lower()
print(new_text)
```

5.

```
text = "aaabbbccc aaa"
result = text[0]
for ch in text[1:]:
    if ch != result[-1]:
        result += ch
print(result)
```

6.

```
text = "mississippi"
frequency = {}
for ch in text:
    if ch in frequency:
        frequency[ch] += 1
    else:
        frequency[ch] = 1
for key in sorted(frequency):
    print(f"{key}:{frequency[key]}", end=" ")
```

7.

```
text = "shift"
shifted = ""
for i, ch in enumerate(text):
    shifted += chr(((ord(ch) - ord('a') + i) % 26) + ord('a'))
print(shifted)
```

8.

```
text = "P4ssw0rd2024"
new_text = ""
for ch in text:
    new_text += "*" if ch.isdigit() else ch
print(new_text)
```

9.

```
sentence = "Find the longest word in this sentence"
words = sentence.split()
longest = ""
for word in words:
    if len(word) > len(longest):
        longest = word
print(longest[::-1])
```

10.

```
password = "SeCur3@2024"
strength = 0
for ch in password:
    if ch.islower():
        strength += 1
    elif ch.isupper():
        strength += 2
    elif ch.isdigit():
        strength += 3
    else:
        strength += 4
print(strength % 10)
```

11.

```
sentence = "reverse each word"
words = sentence.split()
index = 0
while index < len(words):
    words[index] = words[index][::-1]
    index += 1
print(" ".join(words))
```

12.

```
sentence = "An eagle is observing the area"
words = sentence.lower().split()
vowel_count = 0
for word in words:
    if word[0] in "aeiou":
        vowel_count += 1
print(vowel_count * 2)
```