Strings:

1. What is the output of the following code?

python

Copy

s = "Python"

print(s[1:4:2])

a) "yt" b) "yh" c) "yo" d) "th"

1. Which method would you use to replace all occurrences of a substring in a string? a) string.replace() b) string.substitute() c) string.swap() d) re.sub()
2. What is the time complexity of string concatenation using the '+' operator? a) O(1) b) O(n) c) O(n^2) d) O(log n)
3. What will be the output of the following code?

python

Copy

s = "Hello, World!"

print(s.strip("He!"))

a) "llo, World" b) "Hello, World" c) "o, Worl" d) "llo, World!"

1. Which of the following will split a string into a list of words, treating any whitespace as a delimiter? a) string.split() b) string.split(' ') c) string.splitlines() d) re.split(r'\s+', string)
2. What is the output of the following code?

python

Copy

s = "Python"

print(s.ljust(10, '\*'))

a) "Python\*\*\*\*" b) "\*\*\*\*Python" c) "**Python**" d) "Python"

1. Which method would you use to check if a string starts with a specific substring? a) string.startswith() b) string.beginswith() c) string.find() d) string.index()
2. What will be the output of the following code?

python

Copy

s = "Hello, {name}! You are {age} years old."

print(s.format(age=25, name="Alice"))

a) "Hello, {name}! You are {age} years old." b) "Hello, Alice! You are 25 years old." c) ValueError d) "Hello, 25! You are Alice years old."

1. Which of the following will convert a string to title case (first letter of each word capitalized)? a) string.capitalize() b) string.title() c) string.upper() d) ' '.join(word.capitalize() for word in string.split())
2. What is the output of the following code?

python

Copy

s = "Python"

print(s.center(10, '\*'))

a) "**Python**" b) "Python\*\*\*\*" c) "\*\*\*\*Python" d) "***Python***"

Strings:

1. Answer: a) "yt" Explanation: s[1:4:2] starts at index 1 ('y'), goes up to (but not including) index 4, with a step of 2.
2. Answer: a) string.replace() Explanation: replace() is used to replace all occurrences of a substring in a string.
3. Answer: c) O(n^2) Explanation: String concatenation creates a new string each time, leading to quadratic time complexity.
4. Answer: a) "llo, World" Explanation: strip() removes the specified characters from both ends of the string.
5. Answer: d) re.split(r'\s+', string) Explanation: This regex splits on any whitespace, including multiple spaces.
6. Answer: a) "Python\*\*\*\*" Explanation: ljust() right-justifies the string, padding with the specified character.
7. Answer: a) string.startswith() Explanation: startswith() checks if the string starts with the specified value.
8. Answer: b) "Hello, Alice! You are 25 years old." Explanation: The format() method replaces the placeholders with the provided values.
9. Answer: b) string.title() Explanation: title() converts the first character of each word to uppercase.
10. Answer: a) "**Python**" Explanation: center() centers the string, padding with the specified character on both sides.