Python Programming Quiz 2 - Week 2: Solution Key

Course: Introduction to Python Programming | Instructor: Sajjad Ahmad | UHP

Instructions

This document provides the solutions for Quiz 2 - Week 2. It includes answers for all multiple-choice questions (1 mark each) and solutions for programming questions (2 marks each).

1 Multiple-Choice Questions (10 marks)

1.1 Question 1: Strings

Question: What is the result of `"Code" + "Fun"`?
(a) Code Fun (b) CodeFun (c) Code+Fun (d) Error
Answer: (b) CodeFun
Explanation: The slides show that string concatenation (e.g., `"hello" + "world"`) produces `"helloworld"` with no space.

1.2 Question 2: String Indexing

Question: Given `str = "ApnaCollege"`, what is `str[4]`?
(a) C (b) o (c) l (d) e
Answer: (a) C
Explanation: The slides show `str = "ApnaCollege"` with indices starting at 0. Index 4 corresponds to `C`.

1.3 Question 3: String Slicing

Question: For `str = "Python"`, what is `str[-4:-1]`?
(a) tho (b) yth (c) hon (d) pyt
Answer: (a) tho
Explanation: Negative indices for `"Python"` are `P(-6), y(-5), t(-4), h(-3), o(-2), n(-1)`. The slice `[-4:-1]` includes `t(-4), h(-3), o(-2)`, giving `"tho"`.

1.4 Question 4: String Functions

Question: Which method capitalizes the first character of a string?
(a) `endsWith()` (b) `find()` (c) `capitalize()` (d) `replace()`
Answer: (c) `capitalize()`
Explanation: The slides list `capitalize()` as the method that capitalizes the first character of a string.

1.5 Question 5: String Functions

Question: What does `str.find("code")` return for `str = "I am a coder."`?
(a) 7 (b) 8 (c) -1 (d) 0

Answer: (a) 7
Explanation: The slides explain that `find()` returns the index of the first occurrence. For `"I am a coder."`, `"code"` starts at index 7.

1.6 Question 6: Conditional Statements

Question: What grade is assigned for marks = 92 in the grading system?
(a) A (b) B (c) C (d) D
Answer: (a) A
Explanation: The slides specify that marks >= 90 result in grade `"A"`.

1.7 Question 7: Conditional Statements

Question: Which condition checks if a number `n` is even?
(a) `n % 2 == 1` (b) `n % 2 == 0` (c) `n // 2 == 0` (d) `n % 2 != 0`
Answer: (b) `n % 2 == 0`
Explanation: The slides practice problem on odd/even numbers uses `% 2 == 0` to check for even numbers.

1.8 Question 8: Lists

Question: What is the output of `len([10, 20, 30, 40])`?
(a) 3 (b) 4 (c) 5 (d) 0
Answer: (b) 4
Explanation: The slides show that `len()` returns the number of elements in a list. The list `[10, 20, 30, 40]` has 4 elements.

1.9 Question 9: List Methods

Question: Given `list = [3, 1, 4, 2]`, what is the result of `list.sort()`?
(a) [1, 2, 3, 4] (b) [4, 3, 2, 1] (c) [3, 1, 4, 2] (d) [2, 4, 1, 3]
Answer: (a) [1, 2, 3, 4]
Explanation: The slides state that `sort()` arranges the list in ascending order.

1.10 Question 10: List Methods

Question: What does `list.remove(2)` do for `list = [1, 2, 3, 2]`?
(a) Removes all 2s (b) Removes first 2 (c) Removes last 2 (d) Error
Answer: (b) Removes first 2
Explanation: The slides specify that `remove()` deletes the first occurrence of the specified element.

2 Programming Questions (20 marks)

2.1 Question 11: Strings

Question: Write a Python program to print the length of a string input by the user.
Solution:

```
text = input("Enter a string: ")
print(len(text))
```

Explanation: The slides show `len(str)` to get the length of a string, and the practice problem asks for the length of a users first name.

2.2 Question 12: String Concatenation

Question: Write a Python program to concatenate `"Learn"` and `"Python"` and print the result.
Solution:

```
result = "Learn" + "Python"
print(result)
```

Explanation: The slides demonstrate concatenation (e.g., `"hello" + "world"` = `"helloworld"`).

2.3 Question 13: String Slicing

Question: Write a Python program to print the slice `"Col"` from `str = "ApnaCollege"`.
Solution:

```
str = "ApnaCollege"
print(str[4:7])
```

Explanation: The slides show `str = "ApnaCollege"` with indices `C(4), o(5), l(6)`. The slice `[4:7]` gives `"Col"`.

2.4 Question 14: String Functions

Question: Write a Python program to replace `"bad"` with `"good"` in `str = "This is bad"` and print the result.
Solution:

```
str = "This is bad"
print(str.replace("bad", "good"))
```

Explanation: The slides list `replace(old, new)` as a string method to replace all occurrences of a substring.

2.5 Question 15: String Functions

Question: Write a Python program to check if `str = "I am a coder."` ends with `"coder."` and print the result.
Solution:

```
str = "I am a coder."
print(str.endswith("coder."))
```

Explanation: The slides show `endswith()` returning `True` if the string ends with the specified substring.

2.6 Question 16: Conditional Statements

Question: Write a Python program to input a number and print `"Positive"` if it is greater than 0, otherwise print `"Non-positive"`.
Solution:

```
num = int(input("Enter a number: "))
if num > 0:
    print("Positive")
else:
    print("Non-positive")
```

Explanation: The slides cover `if-else` statements, and this program applies a simple condition.

2.7 Question 17: Conditional Statements

Question: Write a Python program to input a students marks and print their grade (A: >=90, B: 8089, C: 7079, D: <70).
Solution:

```
marks = int(input("Enter marks: "))
if marks >= 90:
    print("A")
elif marks >= 80:
    print("B")
elif marks >= 70:
    print("C")
else:
    print("D")
```

Explanation: The slides provide the grading system with these exact thresholds.

2.8 Question 18: Conditional Statements

Question: Write a Python program to input three numbers and print the greatest.
Solution:

```
a = int(input("Enter first number: "))
b = int(input("Enter second number: "))
c = int(input("Enter third number: "))
if a >= b and a >= c:
    print(a)
elif b >= c:
    print(b)
else:
    print(c)
```

Explanation: The slides practice problem asks for finding the greatest of three numbers using `if-elif-else`.

2.9 Question 19: Lists

Question: Write a Python program to create a list `[5, 10, 15]`, append `20`, and print the list.
Solution:

```
list = [5, 10, 15]
list.append(20)
print(list)
```

Explanation: The slides show `append()` adding an element to the end of a list.

2.10 Question 20: List Methods

Question: Write a Python program to create a list `[4, 2, 3, 1]`, sort it in ascending order, and print the result.
Solution:

```
list = [4, 2, 3, 1]
list.sort()
print(list)
```

Explanation: The slides describe `sort()` for arranging a list in ascending order.