Python Assignment Questions (100)

1. Variables

Q1. What is a variable in Python?

Q2. How do you assign a value to a variable?

Q3. Can you reassign a variable to a different data type?

Q4. Explain variable naming conventions in Python.

Q5. What is the difference between mutable and immutable variables?

Q6. Write a Python program to assign your name to a variable and print it.

Q7. Create three variables and assign them different data types.

Q8. How do you delete a variable in Python?

Q9. What happens if you try to use a variable before declaring it?

Q10. Explain the use of variables inside a function.

2. Identifiers

Q11. What are valid identifiers in Python?

Q12. Give 5 examples of valid and invalid identifiers.

Q13. Why can't Python keywords be used as identifiers?

Q14. Is 'my-variable' a valid identifier?

Q15. Are identifiers case-sensitive in Python?

Q16. Can identifiers start with an underscore?

Q17. What is the purpose of using descriptive identifiers?

Q18. Differentiate between identifiers and variables.

Q19. Is 'class' a valid identifier? Why or why not?

Q20. How do naming conventions affect readability in code?

3. Operators

Q21. What are the different types of operators in Python?

Q22. Write a program to demonstrate arithmetic operators.

Q23. What is the result of 5 ** 3 in Python?

Q24. Explain the difference between / and // operators.

Q25. How does the modulo operator work? Give an example.

Q26. Demonstrate logical operators with truth tables.

Q27. Write a Python program using comparison operators.

Q28. Use assignment operators to update a variable.

Q29. What is the output of: a = 5; b = a += 2?

Q30. What are identity operators? Provide examples.

4. Strings - Indexing and Slicing

Q31. What is indexing in strings?

Q32. Demonstrate accessing the 3rd character of a string.

Q33. Explain slicing with an example.

Q34. What is negative indexing? Show with an example.

Q35. Write a program to print every second character in a string.

Q36. Get a substring from index 2 to 6 of the string 'Programming'.

Q37. Write code to reverse a string using slicing.

Q38. What will be the result of 'hello'[1:4]?

Q39. What happens when slicing indexes are out of range?

Q40. How do you get the last character of a string?

5. String Methods

Q41. Write a program to convert a string to uppercase.

Q42. Demonstrate use of .lower(), .capitalize() and .title().

Q43. What does .strip() do? Show an example.

Q44. Replace 'cat' with 'dog' in the string 'The cat sat there'.

Q45. Use .find() to locate a substring.

Q46. How does .split() work? Give an example.

Q47. Combine a list of words into a single string using .join().

Q48. What is the use of .isdigit() and .isalpha()?

Q49. Write a program to count the number of 'a's in a string.

Q50. Demonstrate chaining multiple string methods together.

6. f-strings and .format

Q51. Write a program using f-string to print name and age.

Q52. Demonstrate the use of .format() with placeholders.

Q53. Compare f-strings with .format() method.

Q54. Format a float value to 2 decimal places using f-string.

Q55. Create a sentence using named placeholders with .format().

Q56. How do you insert variables inside a string using f-string?

Q57. Align a string to the center using format syntax.

Q58. Display leading zeros in a number using .format().

Q59. Create a multiline formatted string using f-string.

Q60. Use f-string to embed an expression like 2+2.

7. Python Basics

Q61. List basic data types in Python.

Q62. What is a keyword? Give 5 examples.

Q63. Write a program to swap two numbers without a third variable.

Q64. What is indentation and why is it important?

Q65. Define a function and call it in Python.

Q66. Explain the use of the input() function.

Q67. What is the purpose of print()? How to print multiple values?

Q68. What are comments in Python? Write single and multi-line comments.

Q69. Write a program to take name and age from user and print.

Q70. Create a Python file and run it from terminal or command prompt.

8. Coding Questions Related to Strings

Q71. Write a program to reverse a string without using [::-1].

Q72. Count the number of vowels and consonants in a string.

Q73. Check if a string is a palindrome.

Q74. Remove duplicate characters from a string.

Q75. Find the first non-repeating character in a string.

Q76. Check if two strings are anagrams.

Q77. Write a program to print all substrings of a string.

Q78. Find the longest word in a sentence.

Q79. Capitalize the first letter of every word.

Q80. Count how many times a character appears in a string.

9. Python Typecasting

Q81. Convert string '123' to int and perform addition.

Q82. Convert integer 456 to string and concatenate with another string.

Q83. Convert float 45.67 to int and observe the result.

Q84. Convert boolean True to int and False to int.

Q85. Convert int 100 to float and check its type.

Q86. Take user input and convert to integer safely.

Q87. What is the output of str(5+3)? Explain.

Q88. Convert a list of numeric strings to integers using map().

Q89. Convert string '12.5' to float and round it.

Q90. Explain implicit vs explicit type casting with examples.

10. Extra Practice Coding

Q91. Find all words longer than 5 characters in a sentence.

Q92. Remove punctuation from a string.

Q93. Write a program to change case of each character in a string.

Q94. Create a program that counts the occurrence of each word.

Q95. Extract digits from a string and form a new number.

Q96. Write a function to check if a string contains only digits.

Q97. Create a function to remove vowels from a string.

Q98. Write a function to check if a character is uppercase.

Q99. Replace spaces with hyphens in a string.

Q100. Convert a sentence to camelCase format.