Python Practice Questions (100)

INTERMEDIATE LEVEL (1–30)

Strings (1–10)

1. Count the number of vowels in a string.
2. Write a program to reverse a string.
3. Check if a string is a palindrome or not.
4. Count how many words a given string contains.
5. Find the character that appears most frequently in a string.
6. Compare two strings to check if they are identical.
7. Extract all digits present in a string.
8. Count uppercase and lowercase letters in a string.
9. Find the longest word in a sentence.
10. Remove all spaces from a string.

Lists (11–20)

11. Remove duplicate values from a list without using a set.
12. Find the second largest number in a list.
13. Reverse a list without using reverse().
14. Merge two lists without using extend().
15. Count the number of unique values in a list.
16. Create a new list containing squares of all elements.
17. Find the most frequent element in a list.
18. Sort a list in ascending and descending order.
19. Separate even and odd numbers from a list.
20. Find the sum and average of values in a list.

Tuples (21–25)

21. Convert a tuple to a list and back to a tuple.
22. Count the frequency of an element in a tuple.
23. Combine two tuples.
24. Access tuple elements by index using a loop.
25. Find the minimum and maximum values in a tuple.

Dictionary (26–35)

26. Check if a key exists in a dictionary.
27. Find the sum of all values in a dictionary.
28. Merge two dictionaries.
29. Create a new dictionary by swapping keys and values.
30. Find the key with the largest value in a dictionary.
31. Print dictionary keys in sorted order.
32. Create a word-frequency dictionary from a sentence.
33. Create a dictionary from two lists (keys + values).
34. Remove duplicate values from a dictionary.
35. Extract specific data from a nested dictionary.

Sets (36–45)

36. Find union, intersection, and difference of two sets.
37. Check whether two sets are disjoint.
38. Extract even numbers from a set.
39. Add and remove elements from a set.
40. Convert a list to a set and count duplicates.
41. Print elements that appear in set1 but not in set2.
42. Check if two sets are equal.
43. Create a set of unique characters from a string.
44. Convert a set to a list and sort it.
45. Create a frozenset and perform operations on it.

MEDIUM LEVEL (46–75)

Conditions & Loops (46–60)

46. Print all prime numbers from 1 to 100.
47. Print the first n numbers of the Fibonacci series.
48. Find the factorial of a number.
49. Check if a number is an Armstrong number.
50. Sort a list using bubble sort (manual implementation).
51. Print all perfect numbers between 1 and 500.

52. Find the largest and smallest values from a dictionary using loops.
53. Flatten a nested list.
54. Find the sum of digits of a number.
55. Count negative, positive, and zero elements in a list.
56. Store names + marks of 20 students and find the topper.
57. Print repeated characters in a string and their counts.
58. Add two lists element-wise.
59. Find the maximum sum of any contiguous sub-list.
60. Print 10 different patterns.

Applied Problems (61–75)

61. Count the number of sentences in a text.
62. Find the transpose of a 2D matrix.
63. Take 5 subject marks, calculate average, and print grade.
64. Build an ATM simulation.
65. Create a shopping cart system using a dictionary.
66. Create a password strength checker.
67. From a dictionary of students: find subject-wise highest scorer.
68. Convert a CSV format string to a list of dictionaries.
69. Print all duplicates in a list along with their counts.
70. Find the symmetric difference of a list and set.
71. Find the longest palindromic substring in a string.
72. Rotate a list (left or right rotation).
73. Capitalize the first letter of each word in a string.
74. Sort a dictionary by its values.
75. Sort a list of lists by the second element.

HIGH LEVEL / CHALLENGE (76–100)

76. Build a student database with search functionality.
77. Find the most repeated word in a text.
78. Implement Caesar cipher encryption and decryption.
79. Validate a Sudoku row.
80. Create a Hangman game.

81. Find the largest element in a 2D matrix and its position.
82. Build a phonebook with add/delete/search.
83. Simulate an LRU cache.
84. Group all anagrams from a list.
85. Find all palindrome pairs.
86. Create a movie ticket booking simulation.
87. Print all permutations of a list.
88. Multiply two matrices.
89. Build a word-anagram finder.
90. Implement binary search manually.
91. Create the logic for a Tic-Tac-Toe game.
92. Create a text summarizer.
93. Convert a dictionary list into a JSON-style string manually.
94. Check for balanced brackets.
95. Find the top 3 scorers from a class record.
96. Build text compression logic.
97. Create a calendar-like grid using loops.
98. Build a password generator.
99. Build a number guessing game.
100. Extract all email IDs from a long paragraph.