

Python Practice Questions

Beginner:

- Q1. Write a Python program to check if a number is even or odd.
- Q2. Write a Python program to find the factorial of a number.
- Q3. Write a Python program to check if a number is prime.
- Q4. Write a Python program to reverse a string.
- Q5. Write a Python program to check if a string is a palindrome.
- Q6. Write a Python program to find the largest number in a list.
- Q7. Write a Python program to count the number of vowels in a string.
- Q8. Write a Python program to remove duplicates from a list.
- Q9. Write a Python program to find the sum of all elements in a list.
- Q10. Write a Python program to find the length of a string.
- Q11. Write a Python program to find the average of a list of numbers.
- Q12. Write a Python program to find the largest and smallest numbers in a list.
- Q13. Write a Python program to check if a year is a leap year.
- Q14. Write a Python program to find the common elements between two lists.
- Q15. Write a Python program to find the Fibonacci series up to a given number of terms.
- Q16. Write a Python program to convert Celsius to Fahrenheit.
- Q17. Write a Python program to find the square root of a number.
- Q18. Write a Python program to find the common characters between two strings.
- Q19. Write a Python program to generate a random number between a given range.
- Q20. Write a Python program to sort a list of numbers in ascending order.
- Q21. Write a Python program to count the occurrences of each element in a list.
- Q22. Write a Python program to calculate simple interest.
- Q23. Write a Python program to calculate compound interest.
- Q24. Write a Python program to find the median of a list of numbers.
- Q25. Write a Python program to find the sum of all even numbers in a list.

Intermediate:

- 1. Write a Python program to find the second largest number in a list.
- 2. Write a Python program to count the frequency of each element in a list.
- 3. Write a Python program to find the intersection of two lists.
- 4. Write a Python program to check if a string is an anagram of another string.
- 5. Write a Python program to find the sum of all prime numbers in a given range.
- 6. Write a Python program to find the highest occurring character in a string.
- 7. Write a Python program to implement a binary search algorithm.

8. Write a Python program to reverse the order of words in a sentence.
9. Write a Python program to find the longest common prefix among a list of strings.
10. Write a Python program to find the first non-repeating character in a string.
11. Write a Python program to sort a list of dictionaries based on a specific key.
12. Write a Python program to find the maximum subarray sum in a given list of integers.
13. Write a Python program to implement a stack using a list.
14. Write a Python program to convert a decimal number to binary.
15. Write a Python program to find the missing number in a given list of consecutive numbers.
16. Write a Python program to check if a binary tree is a binary search tree.
17. Write a Python program to find the prime factors of a number.
18. Write a Python program to remove duplicate characters from a string.
19. Write a Python program to implement a queue using two stacks.
20. Write a Python program to find the kth largest element in an unsorted list.
21. Write a Python program to find the maximum difference between two elements in an array such that the larger element appears after the smaller element.
22. Write a Python program to find the longest substring without repeating characters in a given string.
23. Write a Python program to implement a circular linked list.
24. Write a Python program to find the roots of a quadratic equation.
25. Write a Python program to implement a binary search tree and perform operations such as insertion, deletion, and searching.

Advance:

1. Write a Python program to find the longest substring without repeating characters in a given string.
2. Write a Python program to implement a depth-first search (DFS) algorithm for a graph traversal.
3. Write a Python program to implement a breadth-first search (BFS) algorithm for a graph traversal.
4. Write a Python program to find the shortest path between two nodes in a graph using Dijkstra's algorithm.
5. Write a Python program to implement a merge sort algorithm for sorting a list of numbers.
6. Write a Python program to implement a quicksort algorithm for sorting a list of numbers.

7. Write a Python program to implement a binary search algorithm for searching an element in a sorted list.
8. Write a Python program to find the maximum flow in a network using the Ford-Fulkerson algorithm.
9. Write a Python program to implement an autocomplete system using a trie data structure.
10. Write a Python program to implement a regular expression matcher using recursive backtracking.
11. Write a Python program to implement a topological sort algorithm for a directed acyclic graph.
12. Write a Python program to find the longest increasing subsequence in a list of numbers.
13. Write a Python program to implement an efficient algorithm for pattern matching and substring searching.
14. Write a Python program to implement a depth-limited search algorithm for a graph traversal.
15. Write a Python program to implement an algorithm for finding the maximum bipartite matching in a graph.
16. Write a Python program to implement a minimum spanning tree algorithm using Kruskal's algorithm.
17. Write a Python program to implement an efficient algorithm for finding the kth smallest element in an unsorted list.
18. Write a Python program to implement an algorithm for finding the maximum sum subarray in a given list of integers.
19. Write a Python program to implement a heap data structure and perform operations such as insertion, deletion, and finding the minimum element.
20. Write a Python program to implement an efficient algorithm for checking whether a string is a palindrome or not.
21. Write a Python program to implement an algorithm for calculating the factorial of a given number.
22. Write a Python program to implement an algorithm for finding the maximum subarray product in a given list of numbers.
23. Write a Python program to implement an efficient algorithm for checking whether a number is prime or not.
24. Write a Python program to implement an algorithm for calculating the square root of a given number.
25. Write a Python program to implement an efficient algorithm for finding the GCD (Greatest Common Divisor) of two numbers.