PYTHON QUESTIONS (converted from R programming questions)

1. How to count the number of elements in a list in Python?
2. Create a list with random values in Python.
3. How to add a key-value pair to a dictionary in Python?
4. Access index names of a list using the enumerate function in Python.
5. Convert a matrix to a list of lists in Python.
6. Convert a list of dictionaries to a pandas DataFrame with specific column names in Python.
7. Convert a list to a NumPy array in Python.
8. Use a for loop to print the elements of a list in Python.
9. Find the sum of elements in a list using a for loop in Python.
10. Find the maximum value in a list using a for loop in Python.
11. Reverse a list using a for loop in Python.
12. Count the number of even and odd elements in a list using a for loop in Python.
13. Use a while loop to print the elements of a list in Python.
14. Use a while loop to find the first occurrence of a specific element in a list in Python.
15. Use a while loop to calculate the factorial of a number in Python.
16. Use a while loop to calculate the square of numbers in Python.
17. Use a while loop to reverse a string in Python.
18. Use nested for loops to print multiplication tables up to a certain number in Python.
19. Use nested for loops to create a 2D matrix in Python.
20. Use nested for loops to print a pattern in Python.
21. Use nested for loops to calculate the transpose of a matrix in Python.
22. Check if a number is positive or negative using if-else statements in Python.
23. Use if-else statements to find the maximum of two numbers in Python.
24. Create a program to assign grades based on a student's score using if-else statements in Python.
25. Create a program to categorize numbers into odd or even using if-else statements in Python.
26. Use if-else statements to check if a number is divisible by another number in Python.
27. Use if-else statements to categorize ages into different groups in Python.
28. Use if-else statements to check if a string contains a specific substring in Python.