

# Python Questions and Answers

## What is Recursion in Python?

Recursion in Python is the process where a function calls itself directly or indirectly to solve a problem. A recursive function has two main parts: the base case (to stop recursion) and the recursive case (where the function calls itself).

## What is a Strong Number?

A Strong Number (also known as a Factorial Sum Number) is a number for which the sum of the factorials of its digits equals the number itself. Example: 145 is a Strong Number because  $1! + 4! + 5! = 145$ .

## What is the difference between ARIMA and LSTM?

ARIMA is a statistical model for time series forecasting that relies on linear relationships between past values, whereas LSTM is a deep learning model designed to handle complex, non-linear patterns in sequential data. ARIMA requires stationary data and simpler datasets, while LSTM works well with non-stationary, large, and complex datasets.

## What is List Comprehension in Python?

List comprehension provides a concise way to create lists. It consists of an expression followed by a for loop inside square brackets. Example: `[x**2 for x in range(5)]` creates a list of squares.

## What is ARIMA?

ARIMA (AutoRegressive Integrated Moving Average) is a statistical model used for time series forecasting. It combines three components: AR (AutoRegressive), I (Integrated), and MA (Moving Average) to make the series stationary and forecast future values.

## What is LSTM?

LSTM (Long Short-Term Memory) is a type of Recurrent Neural Network (RNN) designed to model

sequential data. It overcomes the vanishing gradient problem in traditional RNNs and captures long-term dependencies in time series or sequential data.