Introduction To Python

Author : Generated by AI **Date :** 2025

Structure of Python Program

A Python program consists of modules, statements, and expressions. Modules contain reusable code that can be imported. Statements perform actions, and expressions evaluate to values.

Underlying Mechanism of Module Execution

Python modules execute sequentially, with imported modules being compiled and stored in a cache for future use, improving efficiency.

Branching and Looping

Branching includes conditional statements (if, elif, else), allowing decision-making. Looping consists of 'for' and 'while' loops for iteration.

Problem Solving Using Branches and Loops

Control structures help solve problems by directing execution flow based on conditions and loops, aiding in automation and repetitive task handling.

Functions

Functions are reusable blocks of code that perform specific tasks. Defined using 'def' keyword, they improve modularity and readability.

Lambda Functions

Lambda functions are anonymous functions defined using the 'lambda' keyword, often used for short, simple operations.

Lists and Mutability

Lists are mutable sequences in Python, allowing modifications. They support operations like indexing, slicing, and iteration.

Problem Solving Using Lists and Functions

Lists and functions together help in efficient data handling, transformation, and computational tasks.