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Module: 7 DA:- Introduction to Python.

Q-1 What are the types of Applications?

Ans Applications, often referred to as apps, are Software programs designed for specific tasks or purposes.

--> Types of Applications:-

1) Web Applications:-
- This runs in web browser and are accessible over the internet.

2) Mobile Applications:-
- Designed for smartphones & tablets.

3) Desktop Applications:-
- Installed and run on personal computers

4) Enterprise Applications:-
- Large-scale Software systems supporting business processes across an organization.

Q-2 What is programming?

Ans. Programming is the process of creating a set of instructions (code) that a computer can understand and execute to perform specific tasks or solve problems. It's essentially communicating with computers to

tell them what to do. This involves translating human-readable instructions into a language the computer can process.

Q-3 What is Python?

Ans. Python is a high-level, versatile programming language known for it's readability and ease of use. It used in various fields like web development, data science, data Analytics etc. It's clear syntax and library make it beginner-friendly and suitable for both rapid application development and complex projects.

Q-7 How memory is managed in Python?

Ans Python manages memory using a reference counting and garbage collection. Objects are dynamically allocated on a private heap, and the Python memory manager handles memory allocation and deallocation.

- Reference counting tracks how many references point to an object, and when the count drops to zero, the object is deallocated.

- Python also uses a garbage collector to handle circular references and reclaim memory that is no longer reachable, ensuring efficient memory usage.

Q-8 What is the purpose of continue statement in python?

Ans
=> Continue Statements:-

- It continues with the next iteration of the loop.
- It skips the remaining code and jumps to next iteration.

Q-17 What are negative indexes and why are they used?

Ans. Negative indexed start from -1, and they provides a way to access starting from the end, rather from beginning.

Q-28 Differentiate between append() and extend() methods!

-> append() :-

- add single element at the end.

-> extend() :-

- add multiple elements at the end.

Q-43 What is tuple? Difference between list and tuple.

Ans. Tuple :- ordered, immutable sequence of items, allows duplicates.

-> key difference with list is :-

- list is mutable and tuple is immutable. It means, tuple can not be changed after creation.

Q-65 How many Basic types of functions are available in Python?

Ans. There are four basic types of functions in Python:

(1) Built-in-function
- functions that come built into Python language itself are called built-in function and are readily available to us.
Eg. Print(), input() etc.

(2) User defined function:-
- functions that we write define ourself to do certain specific task are referred as user-defined functions.
Eg: CheckNoEvenOdd(20)

(3) Lambda functions:-
- These are small, anonymous functions defined using the lambda keyword. They are often used to short, simple operations and be defined inline.

(4) Recursive functions:-
- function calling itself. They are useful for solving problems that can be broken down into smaller, self-similar problems.

Q-71 What is file fraction in Python? What are keywords to create and write file.

Ans.

→ File handling in Python involves operations like creating, opening, reading, writing and closing file. The key function for this is open(), it takes two parameters: the filename and the mode.

→ Mode 'x': Creates new file. Returns an error if the file is already exists.

→ Mode 'w': Opens a file for writing. Creates the file if it doesn't exist, and overwrites existing content.

Q-83 Explain Exception handling? What is an Error in Python?

Ans. Exception handling is a mechanism that allows programs to gracefully manage errors that occur during execution. When an error happens, it called an exception, and it can interrupt the normal flow of the program.

Exception handling allows programmers to anticipate this errors and take correction action to prevent the program from crashing.

- Error :- An error in Python is a problem that prevents the program from completing its task.

Q-84 How many except statement can a try-except block have ? Name some built-in exception classes.

Soln A try-except block in Python can have one or more except statements

→ built in exception classes :-
- ArithmeticError, ZeroDivisionError, TypeError etc.

Q-85 When will the else part of try-except-else be executed ?

Soln Else part is executed if no exception occurs.

Q-86 Can one block of except statements handle multiple exception?

Soln Yes, one except block can handle multiple exceptions. You can specify multiple exception as a tuple inside the except stmt. This allows you to write more consice code when handling the same actions for different exception types.

Q-87 When is the finally block executed?

Soln Always executed. No matter what.