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**Roll# BSAIM-035**

**AI LAB TASKs**

**Documentation**

**To-Do List Program Documentation**

**Overview**

This Python program implements a simple To-Do List using a class ToDoList. It allows users to add tasks, view them, mark them as completed, and delete tasks dynamically.

**Class and Methods**

**class ToDoList**

This class maintains a list of tasks and provides methods to manage them.

* **\_\_init\_\_()**
  + Initializes an empty list tasks to store task information.
* **add\_task(task)**
  + Adds a new task to the list.
  + Stores tasks as dictionaries with two attributes: task (task description) and completed (boolean indicating completion status).
  + Prints a confirmation message when a task is added.
* **view\_tasks()**
  + Displays all tasks in the to-do list.
  + If the list is empty, it prints "No tasks in the to-do list."
  + Lists each task along with its completion status.
* **mark\_task\_completed(task\_number)**
  + Marks a task as completed based on its position in the list.
  + Updates the completed attribute to True.
  + If an invalid task number is provided, it prints an error message.
* **delete\_task(task\_number)**
  + Removes a task from the list based on its position.
  + Prints a confirmation message when a task is deleted.
  + If an invalid task number is given, it prints an error message.

**Example Usage**

# Creating an instance of ToDoList

todo\_list = ToDoList()

# Adding tasks

todo\_list.add\_task("Buy groceries")

todo\_list.add\_task("Finish the report")

todo\_list.add\_task("Call the plumber")

# Viewing tasks

todo\_list.view\_tasks()

# Marking a task as completed

todo\_list.mark\_task\_completed(1)

# Viewing tasks again

todo\_list.view\_tasks()

# Deleting a task

todo\_list.delete\_task(2)

# Final view of tasks

todo\_list.view\_tasks()

**Expected Output**

Task 'Buy groceries' added to the to-do list.

Task 'Finish the report' added to the to-do list.

Task 'Call the plumber' added to the to-do list.

To-Do List:

1. Buy groceries - Not Completed

2. Finish the report - Not Completed

3. Call the plumber - Not Completed

Task 'Buy groceries' marked as completed.

To-Do List:

1. Buy groceries - Completed

2. Finish the report - Not Completed

3. Call the plumber - Not Completed

Task 'Finish the report' deleted from the to-do list.

To-Do List:

1. Buy groceries - Completed

2. Call the plumber - Not Completed

**Conclusion**

This program provides a basic task management system using a Python class. It demonstrates object-oriented programming principles while allowing users to dynamically manage their tasks.