

# To Do List Project REPORT

Created By Team 3 :

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- *Purpose of the Project:*

Date

27/1/2025

*The project aims to manage tasks and categories in a flexible manner using object-oriented programming. The system provides a user interface to create new categories, add tasks within categories, edit tasks, delete tasks and categories, and view the tasks and existing categories. The project allows users to organize tasks and determine whether they are completed or not, helping track work progress.*

- *Issues Faced and Solutions:*

- *Issue with User Input Handling :*

*We faced an issue with handling user input through the console, especially when validating the correctness of entered data (like ensuring correct values are entered when choosing options from the menu).*

*Solution:* Input validation was implemented using appropriate functions like `int.parse()` and `stdin.readLineSync()`

- *Issue with Adding and Deleting Tasks and Categories:*

*We faced a challenge in adding and deleting tasks and categories dynamically while ensuring no errors occurred if the category or task did not exist.*

*Solution:* We ensured the existence of the category or task before adding or deleting any of them by using `if` statements and `forEach` loops to check for the presence of objects before performing operations.

- *Issue with Handling Multiple Tasks within Categories:*

*There was difficulty in managing tasks within multiple categories, as a category could contain many tasks that might be either completed or not.*

*Solution:* Tasks within the category were organized using a `List<Task>`, allowing tasks to be added easily and performing operations like deletion and modification using indices or comparisons.

- *OOP Principles Applied in the Project:*

- Encapsulation
  - Inheritance
  - Abstraction

