

Session 03

Flutter

"Every small step brings you closer to your goal 💪"

— Keep learning, keep growing.

1. Task 01:

Create a list called `students`:

```
3. List<Map<String, dynamic>> students =  
[];
```

Each student must be represented as a `Map` with:

- `id` → `int` (must be unique)
- `name` → `String`
- `grades` → `Set<int>` (no duplicate grades)

2 Predefined Actions (NO INPUT)

Create a list of actions:

```
4. List<int> actions = [1, 1, 2, 2, 3, 4,  
5];
```

Each number represents a menu option:

Action	Meaning
1	Add student
2	Add grade to student
3	View all students
4	View student average
5	Exit

3 Program Flow (while loop)

- Use a `while` loop to process the `actions` list
 - Stop execution when action `5` (Exit) is reached
 -
-



4 Control Logic (switch statement)

Use a **switch** statement to handle each action.

5 Required Functions (MANDATORY)

A) Add Student

```
5. void addStudent({  
6.   required List<Map<String, dynamic>>  
    students,  
7.   required int id,  
8.   required String name,  
9. }) ;
```

Rules:

- Do NOT allow duplicate **id**
 - Initialize **grades** as an empty **Set**
-

B) Add Grade to Student

```
10. void addGrade({  
11.   required List<Map<String, dynamic>>  
    students,  
12.   required int id,  
13.   required int grade,  
14. }) ;
```



Rules:

- Use **Set** to prevent duplicate grades
 - If student does not exist, print an error message
-

C) View All Students (for loop)

```
15. void viewStudents(List<Map<String,  
dynamic>> students);
```

Output example:

```
16. ID: 1 | Name: Ali | Grades: {90, 80}
```

D) Calculate Average

```
17. double calculateAverage(Set<int>  
grades);
```

Rules:

- Use a **for** loop
- If no grades → return 0

Expected Output (Sample)

Student added: Ali

Grade added: 90

Grade added: 80

ID: 1 | Name: Ali | Grades: {90, 80}

Average: 85

Program finished

2. Roles:

- a. Don't use AI Like ChatGpt

3. Deadline:

- a. 3Days #Sunday _ Jan 25 at 12 PM

4. Submission:

- a. Upload the task in github and [Submit the Form](#)

5. Excuse:

- a. Add your excuse here [Excuse Form](#)