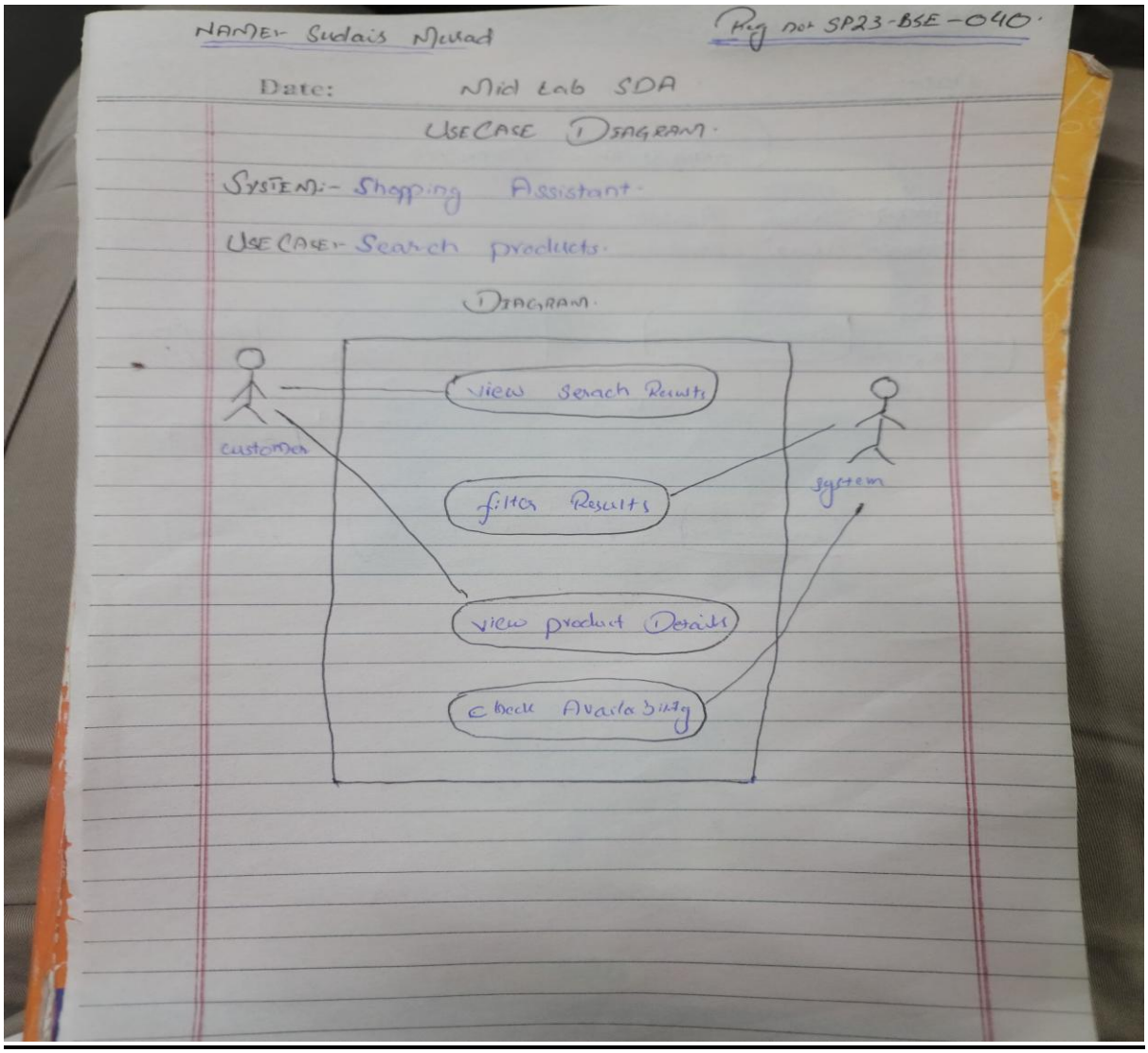
SDA MID LAB

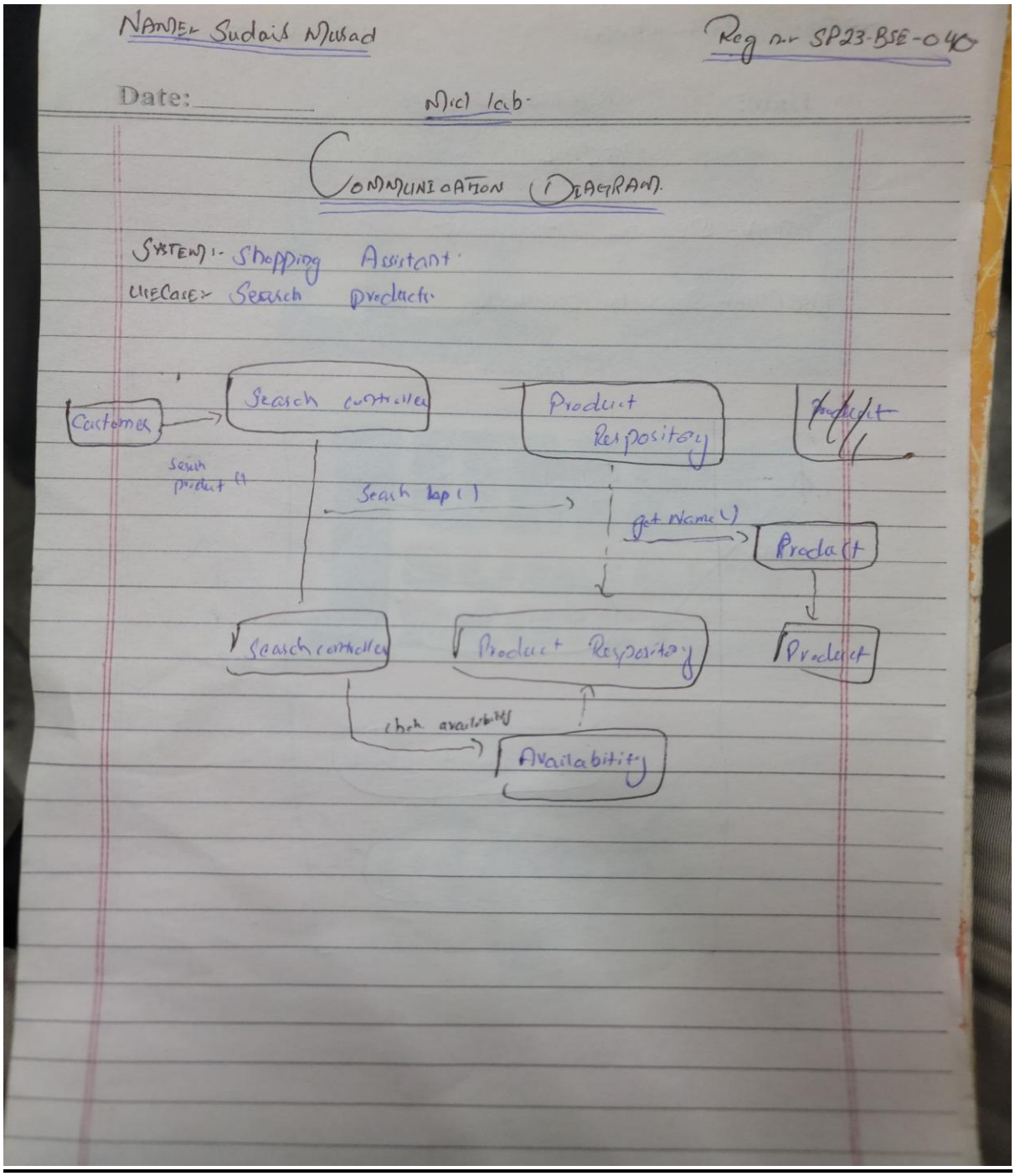
USECASE DIAGRAM

SYSTEM:SHOPPING ASSISTANT

USECASE: SEARCH PRODUCT



COMMUNICATION DIAGRAM



Design Pattern

Information Expert

What is it?

The **Information Expert** pattern says:

"Assign responsibility to the class that has the necessary information to fulfill it."

Where is it applied?

In our code, the **product search logic** is given to the method that **has the product list**. This method knows how to access and process the data.

Why we used it?

- To **keep responsibilities in the right place**.
- It promotes **low coupling** and **high cohesion**.
- The class that **owns the data** should also know how to **search** or **use** that data, which makes the system easier to maintain.

GRASP Principle Applied: Controller

What is it?

The **Controller** principle says:

"Assign the responsibility of handling a system event to a class that represents the overall system or a specific use case."

Where is it applied?

The `searchProduct()` method acts as the **controller**, because it:

- Receives the user/system request.
- Manages the flow of the use case.
- Delegates actual work (like searching) to other parts.

Why we used it?

- To **separate concerns**: the controller handles logic, not the UI.
- It improves **code organization**.
- It makes it easier to change or test the system without affecting other parts.