COMSATS University Islamabad

Applications of Information and Communication Technologies

Lab No. 04

Introduction to MS Access Database

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PART 01:

Introduction to MS Access DB:

Objective:

The objective of this lab is to learn how to use Microsoft Access to create, modify, and manage databases. Specifically, the focus is on:

- Entering data into tables
- Filtering data for specific queries
- Modifying existing data
- Creating forms to input and display data in a user-friendly way

Equipment:

The following equipment are used

- MS Excel
- MS Word

Lab Task 1:

Create database of your lab project. Create tables for each activity. Apply the following queries on the tables:

Steps Involved in the Lab Task:

Step 1:

Define tables to store data related to different activities.

- Navigate to the "Create" tab and select "Table Design."
- Define fields (columns) and their corresponding data types. For instance:
  - Student-ID (AutoNumber, Primary Key)
  - Student-Name (Short Text)
  - Course (Short Text)
  - Marks (Number)
- Save the table with an appropriate name, such as "Student Records."

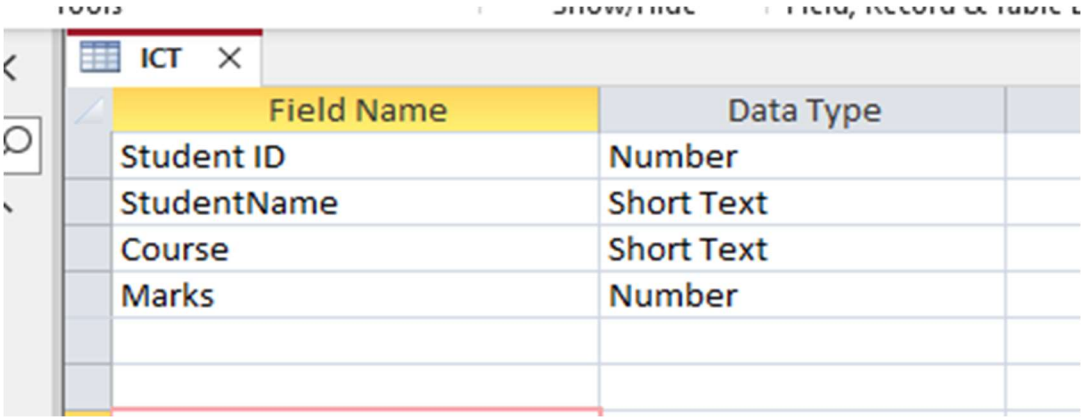

Figure 1 In this we add the fields and their Types

Step 2: Insert Data into the Tables

- **Task:** Add records into the created tables.
    - Open the desired table by switching to "Datasheet View."
    - Manually input data into the table by entering values into the rows

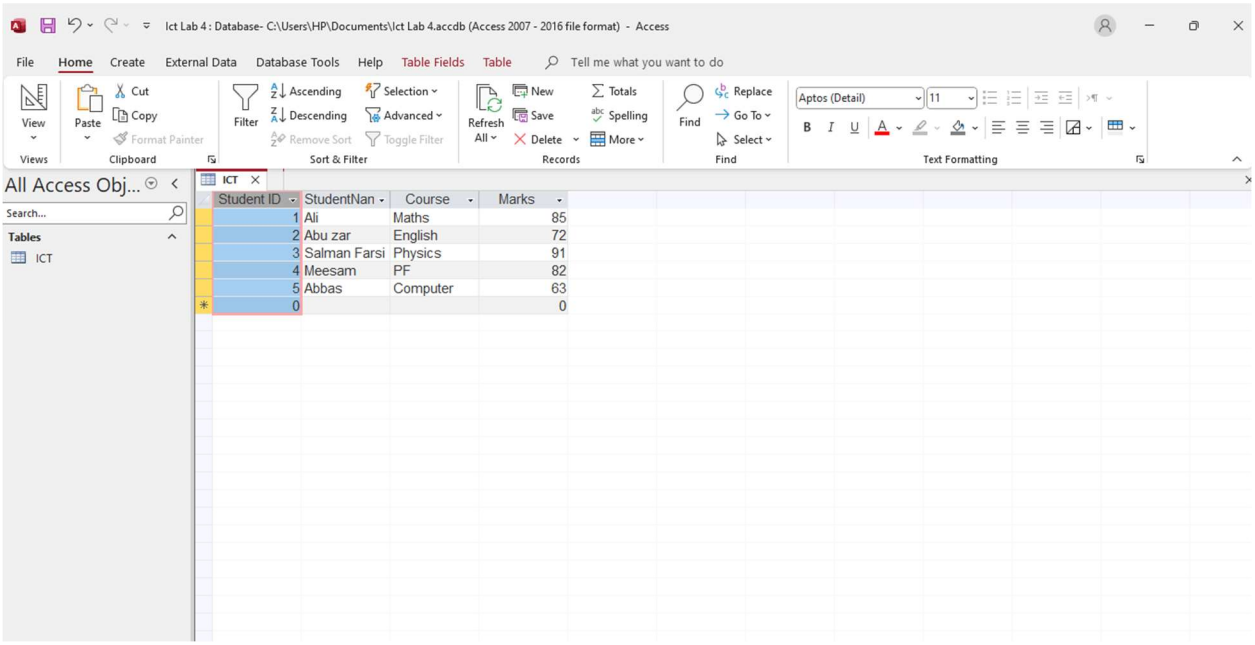

Figure 2 In this we add the sample records of students

Step 3: Retrieve Data from the Tables

- **Task:** Use filters to retrieve specific data from the tables.
    - In the "Datasheet View" of your table, select the column you want to filter.

- Right-click the field and select "Filter by Selection" or "Filter by Form" to view only the desired records.

Example: You can filter records to display students who scored above 80 marks by selecting the Marks column and applying a filter.

- Use sorting and filtering options in the ribbon to further refine your data retrieval.

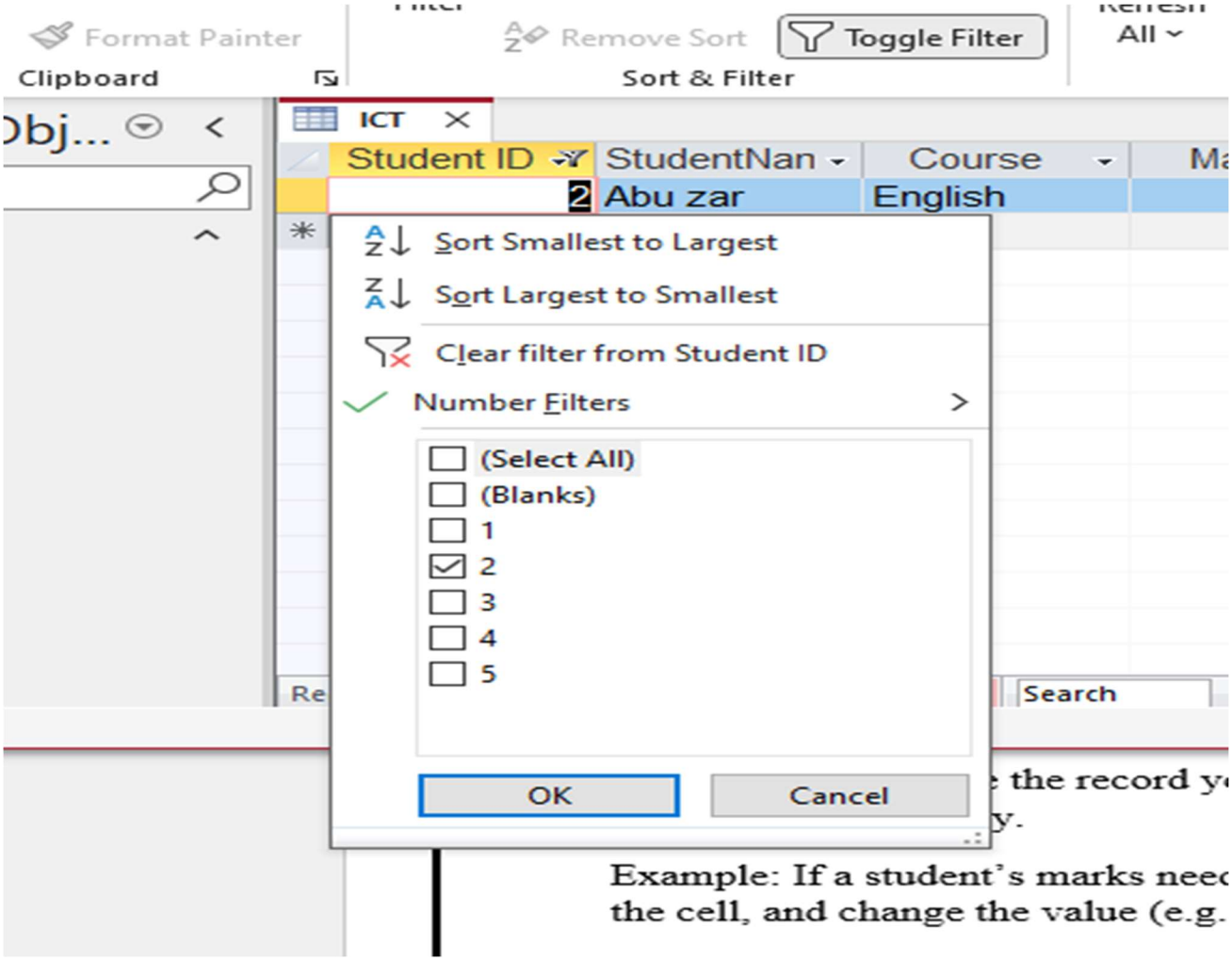

Figure 3 In this we filtered data also we can retrieve data by using queries

Step 4: Update Data in the Tables

- **Task:** Modify existing records in the tables.
  - Open the relevant table in "Datasheet View."
  - Locate the record you want to update and click on the field to edit the data directly.

Example: If a student's marks need to be updated, simply navigate to the Marks column, click on the cell, and change the value (e.g., from 85 to 90).

The updated data is automatically saved in MS Access.

Step 6: Create Forms for Each Activity

- **Task:** Create forms for simplified data entry and management.
    - Navigate to the "Create" tab and select "Form" from the toolbar.
    - Choose the table (e.g., "Student Records") for which you want to create a form.

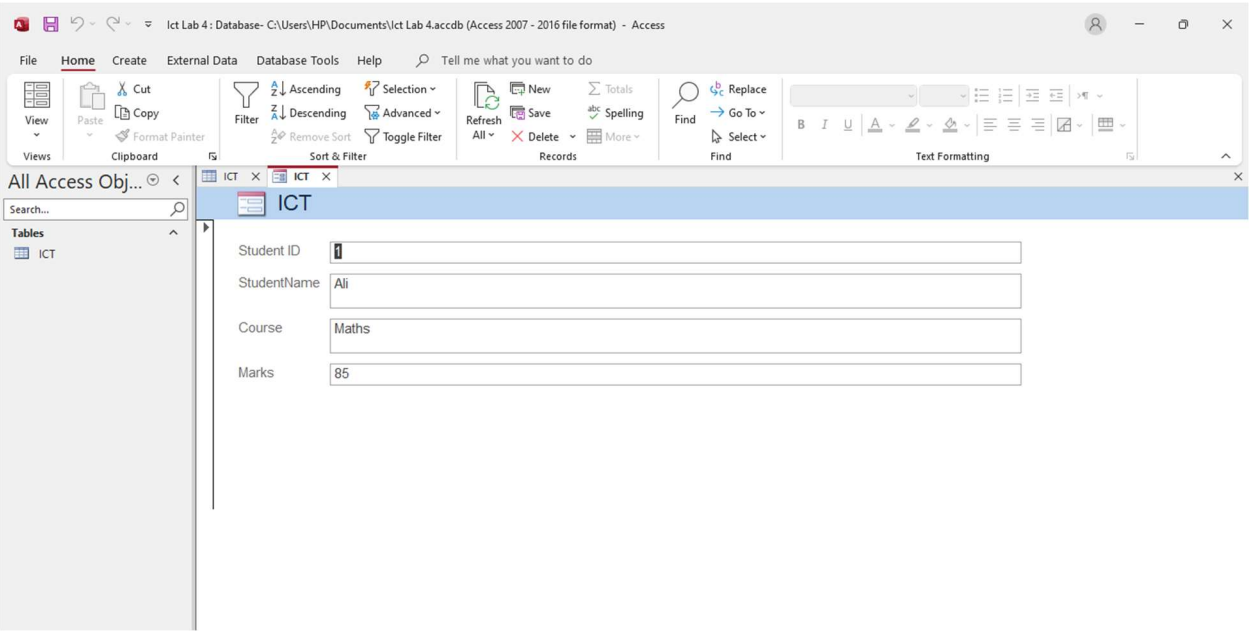

Figure 4 Form of the data we entered

Conclusion:

In this lab, we created and managed a database using Microsoft Access. By defining tables, inserting data, retrieving filtered records, and updating existing data, we gained a fundamental understanding of database management.