

Microsoft Access Practical Exercise

Building a Simple Relational Database: Sunrise Car Rental Customer System

Scenario

Sunrise Car Rental wants a small database to keep track of its customers and the driving licence details it holds on file for each of them. Every customer who registers with the branch has exactly one driving licence recorded, and each driving licence record belongs to exactly one customer — this is a one-to-one (1:1) relationship.

You will build this database in Microsoft Access by creating two tables, linking them with a one-to-one relationship through a foreign key, adding a validation rule to enforce a fixed 8-character format for licence numbers, and then creating a query, a form and a report using the built-in wizards.

What you will practise

- Creating tables in Design View and setting primary keys
- Setting field-level validation rules and validation text
- Creating a one-to-one relationship using a foreign key
- Entering sample data into related tables
- Building a query with the Simple Query Wizard
- Building a form with the Form Wizard
- Building a report with the Report Wizard

Part 1 — Create a New Database

1. Open Microsoft Access.
2. Click Blank Database.
3. In the File Name box, type SunriseCarRental.
4. Choose a folder to save the file in, then click Create.
5. Access opens a new blank table called Table1 in Datasheet View — you will use this as your first table in Part 2.

Part 2 — Create Table 1: tblCustomers

This table stores the personal details of each rental customer.

2.1 Create the table structure

6. On the Create tab, click Table Design.
7. Enter the fields exactly as shown in the table below.
8. Click in the row for CustomerID, then on the Design tab click Primary Key (or right-click the row selector and choose Primary Key). CustomerID should already be set to AutoNumber.
9. Click Save (Ctrl+S), and when prompted for a table name, type tblCustomers, then click OK.

Field Name	Data Type	Field Size / Format	Notes
CustomerID	AutoNumber	Long Integer	Primary Key
FirstName	Short Text	50	—
LastName	Short Text	50	—
PhoneNumber	Short Text	20	—
RegistrationDate	Date/Time	Short Date	—

2.2 Enter the sample data

Switch to Datasheet View (right-click the tblCustomers tab and choose Datasheet View, or use View > Datasheet View) and type in the following five records. Leave CustomerID blank — Access will fill it in automatically.

CustomerID	FirstName	LastName	PhoneNumber	RegistrationDate
1	Amelia	Clarke	07700 900123	03/01/2026
2	Ryan	Patel	07700 900456	11/01/2026
3	Chloe	Evans	07700 900789	19/01/2026
4	Daniel	Murphy	07700 900321	27/01/2026
5	Grace	Thompson	07700 900654	04/02/2026

10. Save the table again (Ctrl+S) once all five rows have been entered.

Part 3 — Create Table 2: tblDrivingLicences

This table stores the driving licence held on file for each customer, and links back to tblCustomers through the foreign key CustomerID.

3.1 Create the table structure

11. On the Create tab, click Table Design.
12. Enter the fields exactly as shown in the table below.
13. Set LicenceID as the Primary Key (as you did for CustomerID in Part 2).
14. Click Save (Ctrl+S) and name the table tblDrivingLicences.

Field Name	Data Type	Field Size / Format	Notes
LicenceID	AutoNumber	Long Integer	Primary Key
CustomerID	Number	Long Integer	Foreign Key — links to tblCustomers.CustomerID

Field Name	Data Type	Field Size / Format	Notes
LicenceNumber	Short Text	8	Must be exactly 8 characters — see validation rule below
ExpiryDate	Date/Time	Short Date	—

3.2 Add the validation rule to LicenceNumber

This is the step that makes Access check the length of what is typed into LicenceNumber and show a warning message if it is wrong.

15. Still in Table Design View for tblDrivingLicences, click into the LicenceNumber row so it is selected.
16. In the Field Properties pane at the bottom of the screen, click into the Validation Rule box.
17. Type: `Len([LicenceNumber])=8`
18. Click into the Validation Text box directly below it.
19. Type: Licence Number must be exactly 8 characters long.
20. Save the table (Ctrl+S). Access will ask whether to test existing data against the new rule — click Yes (there is no data yet, so this is safe).

Note: Later, once relationships are set up, try typing a LicenceNumber with fewer or more than 8 characters (for example DL99) into the datasheet and press Tab or Enter to move off the field. Access will refuse to save the row and will display your validation text message until you correct it or press Esc.

3.3 Enter the sample data

Switch to Datasheet View and enter the five records below. Each LicenceNumber is exactly 8 characters long, matching the validation rule.

LicenceID	CustomerID	LicenceNumber	ExpiryDate
1	1	DL200145	14/06/2029
2	2	DL200278	22/08/2028
3	3	DL200391	09/03/2030
4	4	DL200412	17/11/2027
5	5	DL200567	05/05/2031

21. Save the table once all five rows have been entered.

Part 4 — Create the One-to-One Relationship

A relationship between two tables only becomes one-to-one (rather than one-to-many) when the foreign key field is also set to hold unique values. You will do this by indexing CustomerID in tblDrivingLicences as 'No Duplicates' before creating the relationship.

4.1 Make CustomerID unique in tblDrivingLicences

22. Open tblDrivingLicences in Design View.
23. Click into the CustomerID row.
24. In the Field Properties pane, find the Indexed property and set it to Yes (No Duplicates).
25. Save the table.

4.2 Build the relationship

26. Close any open tables.
27. On the Database Tools tab, click Relationships.
28. In the Show Table dialog, add tblCustomers and tblDrivingLicences, then click Close.
29. Click and hold CustomerID in tblCustomers, then drag it onto CustomerID in tblDrivingLicences and release.
30. In the Edit Relationships dialog, tick Enforce Referential Integrity.
31. Because CustomerID is now unique in both tables, Access will automatically set the Relationship Type to One-To-One at the bottom of the dialog.
32. Click Create.
33. You should now see a line joining the two tables with a '1' at each end, confirming a one-to-one relationship.
34. Save the Relationships layout (Ctrl+S) and close the Relationships window.

Part 5 — Create a Query with the Query Wizard

This query will bring together each customer's details with their driving licence record, for staff to view in one place.

35. On the Create tab, click Query Wizard.
36. Select Simple Query Wizard and click OK.
37. In the Tables/Queries drop-down, choose Table: tblCustomers.
38. Move FirstName, LastName and PhoneNumber into the Selected Fields list using the > button.
39. In the Tables/Queries drop-down, switch to Table: tblDrivingLicences.
40. Move LicenceNumber and ExpiryDate into the Selected Fields list, then click Next.
41. Choose Detail (shows every field of every record) and click Next.
42. Type qryCustomerLicenceDetails as the query title.
43. Choose Open the query to view information, then click Finish.
44. Check that the results show all five customers alongside their matching licence number and expiry date.

Part 6 — Create a Form with the Form Wizard

45. On the Create tab, click Form Wizard.
46. In the Tables/Queries drop-down, choose Query: qryCustomerLicenceDetails.
47. Click the >> button to move all fields into the Selected Fields list, then click Next.
48. Choose a layout — Columnar works well for a single-record view — then click Next.
49. Type frmCustomerLicenceDetails as the form title.
50. Choose Open the form to view or enter information, then click Finish.
51. Use the navigation buttons at the bottom of the form to move between the five customer records.

Part 7 — Create a Report with the Report Wizard

52. On the Create tab, click Report Wizard.
53. In the Tables/Queries drop-down, choose Query: qryCustomerLicenceDetails.
54. Click the >> button to move all fields into the Selected Fields list, then click Next.
55. On the grouping screen, click Next (no grouping is needed for this simple report).
56. On the sorting screen, choose to sort by LastName in ascending order, then click Next.
57. Choose a Layout (Tabular) and Orientation (Landscape), then click Next.
58. Type rptRentalCustomers as the report title.
59. Choose Preview the report, then click Finish.
60. Check that all five customers appear, sorted alphabetically by surname, with their licence details alongside.

Check Your Work

- tblCustomers and tblDrivingLicences both contain 5 records.
- The LicenceNumber validation rule rejects any entry that is not exactly 8 characters and displays your custom message.
- The Relationships window shows a one-to-one (1–1) join between the two tables with referential integrity enforced.
- qryCustomerLicenceDetails displays combined data from both tables.
- frmCustomerLicenceDetails lets you browse each customer's record, including their licence details.
- rptRentalCustomers presents all records in a tidy, sorted, printable layout.