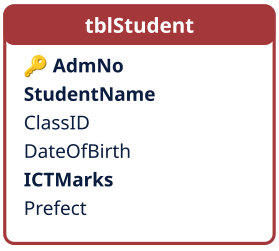
G.C.E. O/L Grade 10 ICT · Lesson 9

9.7 Database Queries: Criteria and Sorting

A **query** asks the database a question, such as 'Which students scored 75 or more in ICT?' and shows only the matching records, in the order you want. In this note you will build queries in **Query Design** (no code needed) by choosing **fields**, typing **criteria** with = > < >= <= <>, **Like**, **Between**, **And/Or**, and **sorting** ascending or descending. Every result below comes from our school database.

1. Creating a query in Design View

- Access: **Create › Query Design** › add **tblStudent**. Base: **Queries › Create Query in Design View**.
- **Double-click** (or drag) fields into the grid: AdmNo, StudentName, ICTMarks.
- Type the condition in the **Criteria** row; choose **Sort**; tick/untick **Show**.
- Click **Run (!)** to see the result in Datasheet View; save as **qryHighICT**.



Field:	AdmNo	StudentName	ICTMarks
Table:	tblStudent	tblStudent	tblStudent
Sort:			Descending
Show:	☑	☑	☑
Criteria:			>=75
or:			

Run ! (Datasheet View)

AdmNo	StudentName	ICTMarks
24103	Nethmi Fernando	91
24109	Sanduni Rajapaksha	88
24101	Amaya Perera	82
24105	Ayesha Fathima	77

4 records match

Figure 9.8: Query Design grid for qryHighICT (ICTMarks >= 75, sorted Descending) and its result.

Grid row	Meaning
Field	The field to use
Table	Table it comes from
Sort	Ascending (A→Z, 0→9) / Descending (Z→A, 9→0)
Show	Tick to display the field in the result
Criteria	Condition records must meet
or	An alternative condition (OR)

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

2. Comparison operators

Operator	Meaning	Example
=	equal to	"10A" (text in quotes)
>	greater than	>70
<	less than	<50
>=	greater than or equal	>=75
<=	less than or equal	<=1000
<>	not equal	<>"Novel"

Query qryHighICT – criteria ICTMarks >=75, sorted Descending: **4** students.

AdmNo	StudentName	ICTMarks
24103	Nethmi Fernando	91
24109	Sanduni Rajapaksha	88
24101	Amaya Perera	82
24105	Ayesha Fathima	77

Query qry10A – criteria ClassID "10A", sorted by StudentName Ascending: **4** students (Amaya Perera, Arun Kumar, Kavindu Silva, Sanduni Rajapaksha).

StudentName	ClassID	ICTMarks
Amaya Perera	10A	82
Arun Kumar	10A	55
Kavindu Silva	10A	64
Sanduni Rajapaksha	10A	88

Query qryFail – ICTMarks <50, sorted Ascending: Tharindu Bandara, Ashen Jayasinghe.

StudentName	ICTMarks
Tharindu Bandara	39
Ashen Jayasinghe	48

Text and dates: text goes in quotes ("10A"); Access dates go between # (<#2010-06-01#). Query qryBorn finds 4 students born before 1 June 2010.

StudentName	DateOfBirth

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

Nethmi Fernando	25/01/2010
Dilini Wickramasinghe	11/02/2010
Amaya Perera	14/03/2010
Ayesha Fathima	30/05/2010

3. Like and Between

Like "A*" finds names starting with A (* = any characters, ? = one character). Result (4): Amaya Perera, Arun Kumar, Ashen Jayasinghe, Ayesha Fathima.

AdmNo	StudentName
24101	Amaya Perera
24106	Arun Kumar
24104	Ashen Jayasinghe
24105	Ayesha Fathima

Between 600 And 1000 on Price includes both ends (600 and 1000). 4 books, sorted by Price Ascending:

BookID	Title	Price
B005	Amba Yaluwo	600
B001	Madol Doova	750
B002	Gamperaliya	950
B008	Atlas of Asia	990

4. And / Or

AND – same Criteria row
Both must be true: ClassID "10B" AND ICTMarks >70 → Nethmi Fernando, Ayesha Fathima (2).

OR – different rows
Either may be true: ClassID "10C" on Criteria, Prefect Yes on the 'or' row → 5 students.

StudentName	ClassID	ICTMarks
Nethmi Fernando	10B	91
Ayesha Fathima	10B	77

StudentName	ClassID	Prefect
Amaya Perera	10A	Yes
Ashen Jayasinghe	10C	No

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

Dilini Wickramasinghe	10C	Yes
Malith Herath	10C	No
Nethmi Fernando	10B	Yes

Not equal: Category <>"Novel" gives 5 books.

Title	Category
Atlas of Asia	Reference
Birds of Sri Lanka	Science
Python for Beginners	Computing
Sri Lanka School Atlas	Reference
The Story of Sigiriya	History

Yes/No criteria: Returned = No lists the books not yet returned (4 loans).

BorrowID	BookID	AdmNo
2	B005	24103
3	B004	24101
5	B001	24105
6	B006	24109

> 💡 AND makes a result **smaller** (both conditions); OR makes it **larger** (either condition). Always check the result count!

5. Extra (not required for O/L): SQL SELECT

Behind every Query Design is **SQL** (Structured Query Language). In Access click **View › SQL View** to see it:

SQL (extra)	Meaning
SELECT AdmNo, StudentName, ICTMarks	fields to show
FROM tblStudent	the table
WHERE ICTMarks >= 75	criteria
ORDER BY ICTMarks DESC;	sort (ASC/DESC)

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

NEW 2026 **2026: ask the data in plain words – then check.** Google Sheets, Airtable and Access add-ins with **AI assistants** can turn ‘show 10B students above 70’ into a query or SQL. AI can misread a condition (> vs >=), so open the **Design grid**, check the criteria and the **record count** yourself. Sri Lankan systems like **e-channelling** run millions of such queries daily (doctor = X AND date = today).

Key Words

Query – A question that selects records and fields from tables.	**Query Design** – Grid view to build a query without code.
Criteria – Conditions that records must meet.	**Run (!)** – Button that executes the query.
Ascending – Sort A→Z, smallest→largest, oldest→newest.	**Descending** – Sort Z→A, largest→smallest.
Show – Grid tick box: display the field in the result.	**Like** – Pattern match with wildcards * and ?.
Between ... And ... – Range including both ends.	**AND** – Both conditions true – same Criteria row.
OR – Either condition true – different rows.	**SQL** – Structured Query Language behind queries (extra).

Sample Q&A

1. What is a query?

> **Answer:** A request that selects specific fields and records from tables, optionally sorted.

2. Write criteria for ICT marks 75 or more.

> **Answer:** >=75

3. Write criteria for names starting with A.

> **Answer:** Like "A*"

4. How is AND entered in the grid?

> **Answer:** Both conditions on the same Criteria row.

5. How is OR entered?

> **Answer:** Conditions on different rows (Criteria and 'or').

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

6. What does unticking Show do?

> **Answer:** The field is used for criteria/sort but not displayed.

MCQ

1. A query that lists ICTMarks >= 75 from tblStudent returns how many records?

A. 4
B. 10
C. 3
D. 5

2. In qryHighICT sorted Descending, the first student is...

A. Tharindu Bandara
B. Ayesha Fathima
C. Sanduni Rajapaksha
D. Nethmi Fernando

3. Criteria for marks less than 50 is...

A. <>50
B. <50
C. <=50
D. >50

4. qryFail (ICTMarks <50, Ascending) lists...

A. Tharindu Bandara, Ashen Jayasinghe, Arun Kumar
B. Tharindu Bandara
C. Tharindu Bandara, Ashen Jayasinghe
D. Ashen Jayasinghe, Tharindu Bandara

5. The operator meaning 'not equal to' is...

A. <>
B. !=
C. ><
D. =<

6. Like "A*" on StudentName returns how many students?

A. 1
B. 4
C. 5
D. 3

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

7. In Like, the wildcard for any number of characters is…

A. ?
B. &
C. *
D. #

8. Price Between 600 And 1000 – is a book of Rs. 600 included?

A. Only if sorted
B. No
C. Only in SQL
D. Yes – both ends are included

9. ClassID "10B" AND ICTMarks >70 gives…

A. Nethmi Fernando, Ayesha Fathima
B. Nethmi Fernando
C. Tharindu Bandara
D. Nethmi Fernando, Ayesha Fathima, Tharindu Bandara

10. To combine conditions with AND in Query Design, type them…

A. on the same Criteria row
B. on different rows
C. in the Sort row
D. in the Table row

11. ClassID "10C" OR Prefect = Yes returns how many students?

A. 2
B. 7
C. 5
D. 3

12. Sorting names Z → A is…

A. Grouping
B. Filtering by form
C. Descending
D. Ascending

13. To use a field for criteria but hide it from the result, you…

A. set it as PK
B. untick Show
C. delete the field
D. sort it

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

14. Returned = No on tblBorrow lists how many loans?

A. 0
B. 7
C. 3
D. 4

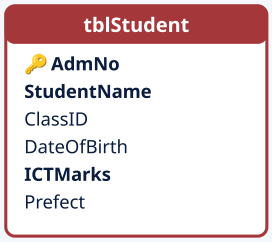
15. (SQL extra) In SELECT … FROM tblStudent WHERE ICTMarks >= 75 ORDER BY ICTMarks DESC, the criteria part is…

A. ORDER BY ICTMarks DESC
B. WHERE ICTMarks >= 75
C. SELECT AdmNo
D. FROM tblStudent

Structured Questions

1. Using the query grid in Figure 9.8: (i) name the table, (ii) give the criteria, (iii) state the sort order, (iv) write the result. (4 marks) *(4 marks)*

(i) tblStudent (ii) ICTMarks >=75 (iii) ICTMarks Descending (iv) Nethmi Fernando, Sanduni Rajapaksha, Amaya Perera, Ayesha Fathima.



Field:	AdmNo	StudentName	ICTMarks
Table:	tblStudent	tblStudent	tblStudent
Sort:			Descending
Show:	☑	☑	☑
Criteria:			>=75
or:			

Run ! (Datasheet View)

AdmNo	StudentName	ICTMarks
24103	Nethmi Fernando	91
24109	Sanduni Rajapaksha	88
24101	Amaya Perera	82
24105	Ayesha Fathima	77

4 records match

Model answer

2. Write the criteria for: (i) class 10A, (ii) names beginning with A, (iii) price from 600 to 1000, (iv) category not Novel. (4 marks) *(4 marks)*

(i) "10A" (ii) Like "A*" (iii) Between 600 And 1000 (iv) <>"Novel"

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

3. Find the 10B students with ICTMarks >70. Show how AND is entered and give the result. (3 marks) *(3 marks)*

> ClassID criteria "10B" and ICTMarks criteria >70 on the same row. Result: Nethmi Fernando, Ayesha Fathima.

4. Explain the difference between AND and OR criteria with an example. (2 marks) *(2 marks)*

> AND – both true, same row (10B AND >70 → 2); OR – either true, different rows (10C OR Prefect → 5).

5. List the students with ICTMarks <50 sorted Ascending, and suggest one use of this query for the teacher. (2 marks) *(2 marks)*

> Tharindu Bandara, Ashen Jayasinghe; to arrange extra classes for them.

Summary

- A query selects fields and records; Run (!) shows the result.
- Grid rows: Field, Table, Sort, Show, Criteria, or.
- Operators: = > < >= <= <>.
- Text in quotes "10A"; dates in #...#.
- Like "A*": * any characters, ? one.
- Between 600 And 1000 includes both ends.
- AND same row (fewer); OR different rows (more).
- Sort Ascending/Descending; SQL SELECT is behind it (extra).

MCQ answer key – 9.7

1. **A** – Nethmi Fernando, Sanduni Rajapaksha, Amaya Perera, Ayesha Fathima.
2. **D** – Highest first.
3. **B** – Less than.
4. **C** – Ascending: lowest first.
5. **A** – Access uses <>.
6. **B** – Amaya Perera, Arun Kumar, Ashen Jayasinghe, Ayesha Fathima
7. **C** – Star.
8. **D** – Amba Yaluwo Rs. 600 is in the result.
9. **A** – Tharindu has 39.
10. **A** – Same row.
11. **C** – Amaya Perera, Ashen Jayasinghe, Dilini Wickramasinghe, Malith Herath, Nethmi Fernando
12. **C** – Descending.
13. **B** – Show box.
14. **D** – Not yet returned.
15. **B** – WHERE.

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

© 2026 schoolict.net (Ruwan Mangala Suraweera). All rights reserved.