

Worksheet:2 - Grade 7 Computing - Unit 2: Managing Data, Topic 2.3

Name: _____ Class/Section _____ Data: _____

Section A: Fill in the Blanks using words from the list provided. Some of the words in the list will not be used.

rule	unique	< 80	Primary Key	Record
duplicate	> 80	Greater than	Less than	Field

1. A **Primary Key** must contain a _____ value for every single record, helping to prevent duplicate entries.
2. When searching a database, a **criterion** is a _____ used to filter which records are displayed.
3. In a database, using **the > operator** in a query will select numbers that are _____ the data given.
4. In a database table, the row is called a _____.
5. To find all students with marks greater than 80, we can use the criterion/rule _____.

Section B: Multiple Choice Questions (MCQs)

1. Which field best represents a **Primary Key** in a school's database table of students?
a) Teacher's Name b) Date of Birth c) Favourite Subject d) Student ID
2. A command or function that retrieves and filters data based on specific criteria is called:
a) Field b) Query c) Data d) Chart
3. In a database search, if you use the criterion "Age < 12", which records will be returned?
a) age 12 and over b) age exactly 12 c) age 11 and under d) All records
4. Which symbol is used for "less than" in a search criterion/rule?
a) = b) > c) < d) <>
5. Which search criterion/rule will find products that cost more than 1000?
a) Cost < 1000 b) Cost = 1000 c) Cost > 1000 d) Cost ≤ 1000
6. This type of conditional formatting uses colours to show low, medium, and high
a) Formulas b) Colour Scales c) Data bars d) Icon sets

Section C: Short Answer Questions

1. Explain in one sentence why a field like First Name is a poor choice for a Primary Key.

2. Explain why Conditional Formatting is a useful tool when analysing data in a large spreadsheet.

3. If you use a single criterion to search a database using text fields, like Game Name < "S", which part of the alphabet will the returned results be from?

Section D: Database and Spreadsheet Scenario Questions

Scenario 1: Primary Keys and Database Structure

Player Number	Player Name	Game Name	Age Rating	Genre
1	Mohammed Khan	Bill & Betty	12+	2D Platform
2	Charlie Jones	Build Blocks	3+	Arcade
3	John Adams	Ping Pong	3+	Arcade
4	Mohammed Khan	Bill & Betty	12+	2D Platform
5	Carla Estevez	Ping Pong	3+	Arcade

1. Which field in the table above can be selected as the Primary Key? _____
2. Explain why Player Name is not a suitable field to be the Primary Key in this table.

Section E: Match the Columns (5 marks)

Column A	Column B
1. Table	a) consists of two or more columns to uniquely identify a record.
2. Record	b) A column in database table
3. Field	c) Collection of records arranged in rows and columns
4. Composite Primary Key	d) A Row in a table

Section F: Short Answer Questions

1. What is a query? Give one example.

2. Give any three characteristics of a primary key.

3. What does it mean to search using a criterion? Give one example using ">".

4. Write one example of a search query that shows students who scored less than 50 marks.

Section G: Spreadsheet and Database Scenario Questions

Question 1 (Database Scenario):

You are managing a database of students:

- Write a criterion to find students who have **marks greater than 80**. _____
- Write a criterion to find students who are **younger than 13**. _____

Student ID	Name	Age	Marks
ST01	Ayesha	13	82
ST02	Ahmed	12	76
ST03	Sana	14	65
ST04	Bilal	13	89

Question 2: School Library Database

Your school librarian keeps all book records in a database table called **Books**.

Book_ID	Title	Author	Year_Published	Copies_Available
B001	The Secret Garden	F. H. Burnett	1911	4
B002	Wonder	R. J. Palacio	2012	2
B003	Harry Potter	J. K. Rowling	1997	5
B004	The Hobbit	J. R. R. Tolkien	1937	1

1. Write a search criterion to find **all books published after 2000**.

2. Write a search criterion to find books that have **less than 3 copies available**.

3. If you want to find **all books written by "J. K. Rowling,"** what criterion would you use?

Question 3: Look at the **computer games database** table on the right:

a. What is the **primary key** in computer game database?

b. Write a query to **select schools greater than B:**

c. Why is the **Genre** field not appropriate to be set as the primary key?

Game code	Game name	Genre	Age rating (Age+)
BB01	Bill & Betty	2D platform	12
BB02	Build Blocks	Arcade	3
PP01	Ping Pong	Arcade	3
SA01	Super Adventurer	2D platform	12
BSB01	Blocks Super Build	Puzzle	3
TGR01	The Great Race	Racing	3
TPT01	Theme Park Tycoon	Simulation	8
HSH01	Home Sweet Home	Simulation	8
WIO01	Work It Out	Puzzle	8
PB01	Point Blank	2D platform	12
TR01	Train Ride	2D platform	8
HM01	Hospital Manager	Simulation	8
BK01	Bungo Kawaii	3D platform	8
FB01	Flip Buggy	Racing	3
CD01	Countdown Doug	Puzzle	8
CC01	Chuck's Challenge	3D platform	12
RB01	Risky Business	Simulation	12
WC01	Word Crush	Puzzle	8
Z01	Zoomer	Racing	12
DG01	Diggy Hole	Simulation	3
PC01	Portal Combat	Arcade	12
AB01	Angry Bugs	Puzzle	3
*			0

d. Create a query to find out which games have **a name that begins with one of the first three letters of the alphabet**. Display the **game name field only**.

i. Which **results** are in your query?

ii. Explain what **criteria** you used for your query and why?

Question 4: Make a query by following the directions given below about the table of Fruits shown:

a) Select Fruits less than D:

b) Select Fruits greater than D: