

DB-LabTask-4

Roll No: 24P-0706

Name: Aazan Noor Khuwaja

Dept: BS-CS

Section: 4B

1. Using a CASE expression, create a new column in the result set that categorizes each game based on its rating as:
 - a. Excellent (rating ≥ 90)
 - b. Good (rating 80–89)
 - c. Average (rating < 80)

Query:

```
SELECT title, rating,  
CASE  
WHEN rating>=90 THEN 'Excellent'  
WHEN rating BETWEEN 80 AND 89 THEN 'Good'  
WHEN rating<80 THEN 'Average'  
END AS BASED_ON_RATING  
FROM games;
```

OUTPUT:

title	rating	BASED_ON_RATING
GTA V	97	Excellent
Minecraft	93	Excellent
The Witcher 3	95	Excellent
Cyberpunk 2077	86	Good
Red Dead Redemption 2	96	Excellent
FIFA 23	76	Average
Call of Duty: MW	84	Good
Elden Ring	96	Excellent
Fortnite	88	Good
Among Us	85	Good
God of War	94	Excellent
Valorant	80	Good
League of Legends	90	Excellent
Dota 2	89	Good
CS:GO	88	Good
Hades	93	Excellent
Stardew Valley	91	Excellent
Animal Crossing	90	Excellent
Zelda: BOTW	97	Excellent
Mario Kart 8	92	Excellent
Apex Legends	89	Good
PUBG	85	Good
Overwatch	91	Excellent
Skyrim	94	Excellent
Terraria	83	Good
Rocket League	86	Good
The Last of Us	95	Excellent
Horizon Zero Dawn	89	Good
Genshin Impact	82	Good
Clash of Clans	78	Average

2. Using a CASE expression, create a new column that labels each game based on its price as:
 - a. Free (\$0)
 - b. Budget ($\leq \$15$)
 - c. Premium ($> \$15$)

Query:

```
SELECT title , price_usd,  
CASE  
WHEN price_usd=0 THEN 'Free'  
WHEN price_usd<=15 THEN 'Budget'
```

```

WHEN price_usd>15 THEN 'Premium'
END AS Price_Categories
FROM games;

```

OUTPUT:

title	price_usd	Price_Categories
GTA V	29.99	Premium
Minecraft	26.95	Premium
The Witcher 3	39.99	Premium
Cyberpunk 2077	29.99	Premium
Red Dead Redemption 2	39.99	Premium
FIFA 23	49.99	Premium
Call of Duty: MW	39.99	Premium
Elden Ring	49.99	Premium
Fortnite	0.0	Free
Among Us	4.99	Budget
God of War	29.99	Premium
Valorant	0.0	Free
League of Legends	0.0	Free
Dota 2	0.0	Free
CS:GO	0.0	Free
Hades	19.99	Premium
Stardew Valley	14.99	Budget
Animal Crossing	49.99	Premium
Zelda: BOTW	49.99	Premium
Mario Kart 8	49.99	Premium
Apex Legends	0.0	Free
PUBG	29.99	Premium
Overwatch	39.99	Premium
Skyrim	29.99	Premium
Terraria	9.99	Budget
Rocket League	0.0	Free
The Last of Us	29.99	Premium
Horizon Zero Dawn	39.99	Premium
Genshin Impact	0.0	Free
Clash of Clans	0.0	Free

3. Find how many games belong to each genre.

Query:

```

SELECT genre, COUNT(*) AS Total_Games
FROM games

```

GROUP BY genre;

OUTPUT:

genre	Total_Games
Action	5
Adventure	1
Battle Royale	3
MOBA	2
Party	1
RPG	5
Racing	1
Roguelike	1
Sandbox	2
Shooter	4
Simulation	2
Sports	2
Strategy	1

4. Compute average critic rating for each platform.

Query:

```
SELECT platform, AVG(rating) AS AVG_Rating  
FROM games  
GROUP BY platform;
```

OUTPUT:

platform	AVG_Rating
Mobile	81.66666666666667
PC	89.2222222222222
PS4	93.2
PS5	76.0
Switch	93.0

5. For each genre, find the maximum global sales.

Query:

```
SELECT genre, MAX(global_sales_million) AS MAX_Global_Sales  
FROM games  
GROUP BY genre;
```

OUTPUT:

genre	MAX_Global_Sales
Action	190.0
Adventure	32.0
Battle Royale	400.0
MOBA	180.0
Party	200.0
RPG	120.0
Racing	60.0
Roguelike	10.0
Sandbox	300.0
Shooter	120.0
Simulation	45.0
Sports	75.0
Strategy	200.0

6. Display the names of publishers whose average game rating is greater than 90.

Query:

```
SELECT publisher, AVG(rating) AS Avg_Rating  
FROM games  
GROUP BY publisher  
HAVING Avg_Rating > 90;
```

OUTPUT:

publisher	Avg_Rating
Bethesda	94.0
Blizzard	91.0
CDPR	90.5
ConcernedApe	91.0
FromSoft	96.0
Mojang	93.0
Nintendo	93.0
Rockstar	96.5
Sony	92.66666666666667
Supergiant	93.0

7. Using a CASE expression, create a new column that categorizes games based on their global sales into:
 - a. Blockbuster (>100M)
 - b. Hit (30–100M)
 - c. Flop (<30M)

Query:

```
SELECT title,  
CASE  
WHEN global_sales_million>100 THEN 'Blockbuster'  
WHEN global_sales_million BETWEEN 30 AND 100 THEN 'Hit'  
WHEN global_sales_million<30 THEN 'Flop'  
END AS Games_Based_On_Global_Sales  
FROM games;
```

OUTPUT:

title	Games_Based_On_Global_Sales
GTA V	Blockbuster
Minecraft	Blockbuster
The Witcher 3	Hit
Cyberpunk 2077	Flop
Red Dead Redemption 2	Hit
FIFA 23	Flop
Call of Duty: MW	Hit
Elden Ring	Flop
Fortnite	Blockbuster
Among Us	Blockbuster
God of War	Flop
Valorant	Blockbuster
League of Legends	Blockbuster
Dota 2	Blockbuster
CS:GO	Hit
Hades	Flop
Stardew Valley	Hit
Animal Crossing	Hit
Zelda: BOTW	Hit
Mario Kart 8	Hit
Apex Legends	Hit
PUBG	Hit
Overwatch	Hit
Skyrim	Hit
Terraria	Hit
Rocket League	Hit
The Last of Us	Hit
Horizon Zero Dawn	Flop
Genshin Impact	Blockbuster
Clash of Clans	Blockbuster

8. Count how many games each platform has released since 2016.

Query:

```
SELECT platform,COUNT(*) AS Total_Games_By_Platform  
FROM games  
WHERE release_year>=2016
```

GROUP BY platform;

OUTPUT:

platform	Total_Games_By_Platform
Mobile	2
PC	10
PS4	3
PS5	1
Switch	2

9. Display the names of genres whose total global sales exceed 100 million units.

Query:

```
SELECT genre,sum(global_sales_million) AS Total_Global_Sales  
FROM games  
GROUP BY genre  
HAVING Total_Global_Sales>100;
```

OUTPUT:

genre	Total_Global_Sales
Action	335.0
Battle Royale	545.0
MOBA	300.0
Party	200.0
RPG	280.0
Sandbox	345.0
Shooter	240.0
Strategy	200.0

10. Display the average rating of both free and paid games.

Query:

```
SELECT AVG(rating) AS Avg_Rating,  
CASE  
WHEN price_usd=0 THEN 'Free'  
ELSE 'Paid'  
END AS Price_Category  
FROM games  
GROUP BY Price_Category;
```

OUTPUT:

Avg_Rating	Price_Category
85.55555555555556	Free
90.5714285714286	Paid

11. Show publishers that have released more than 2 games.

Query:

```
SELECT publisher,COUNT(*) AS TOTAL_GAM  
FROM games  
GROUP BY publisher  
HAVING TOTAL_GAM>2;
```

OUTPUT:

publisher	TOTAL_GAM
Nintendo	3
Sony	3

12. Find average rating per platform per genre.

Query:

```
SELECT platform,genre,AVG(rating) AS AVG_Rating  
FROM games  
GROUP BY platform,genre;
```

OUTPUT:

platform	genre	AVG_Rating
Mobile	Party	85.0
Mobile	RPG	82.0
Mobile	Strategy	78.0
PC	Action	89.0
PC	Battle Royale	87.33333333333333
PC	MOBA	89.5
PC	RPG	92.75
PC	Roguelike	93.0
PC	Sandbox	88.0
PC	Shooter	86.33333333333333
PC	Simulation	91.0
PC	Sports	86.0
PS4	Action	95.5
PS4	Shooter	84.0
PS5	Sports	76.0
Switch	Adventure	97.0
Switch	Racing	92.0
Switch	Simulation	90.0

13. Display the top three highest-rated games along with their titles and ratings.

Query:

```
SELECT title,rating  
FROM games  
ORDER BY rating DESC  
LIMIT 3;
```

OUTPUT:

title	rating
GTA V	97
Zelda: BOTW	97
Red Dead Redemption 2	96

14. Which platform has the lowest average global sales?

Query:

```
SELECT platform,AVG(global_sales_million) AS AVG_GLOBAL_SALES  
FROM games  
GROUP BY platform  
ORDER BY AVG_GLOBAL_SALES ASC  
LIMIT 1;
```

OUTPUT:

platform	AVG_GLOBAL_SALES
PS5	20.0

15. Identify the most common platform and genre combinations.

Query:

```
SELECT platform,genre, COUNT(*) AS common  
FROM games  
GROUP BY platform,genre  
ORDER BY common DESC  
LIMIT 1;
```

OUTPUT:

platform	genre	common
PC	RPG	4

sqlite> □