LAPTOP PRICE PREDICTION PROJECT SQL – REPORT

Easy Level Queries

1. Count how many laptops are there from each company.

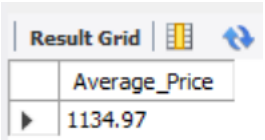
```
SELECT Company, COUNT(*) as Count
FROM laptop_prices
GROUP BY Company
ORDER BY Count DESC;
```

Output: File attached.

2. Find the average prices of laptops.

```
SELECT CAST(AVG(Price_euros) as decimal(10,2)) as Average_Price
FROM laptop_prices;
```

Output:



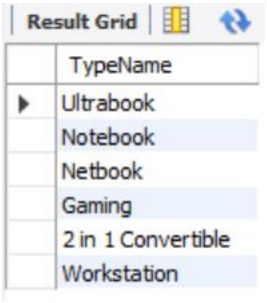
Result Grid

	Average_Price
▶	1134.97

3. List all unique laptop types.

```
SELECT DISTINCT TypeName
FROM laptop_prices;
```

Output:



Result Grid

	TypeName
▶	Ultrabook
	Notebook
	Netbook
	Gaming
	2 in 1 Convertible
	Workstation

4. Retrieve all laptops from Dell.

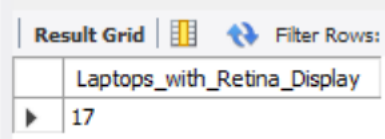
```
SELECT * FROM laptop_prices
WHERE Company = "Dell";
```

Output: File attached.

5. Find the total number of laptops with Retina Display.

```
SELECT COUNT(*) as Laptops_with_Retina_Display FROM laptop_prices
WHERE RetinaDisplay = "Yes";
```

Output:



Result Grid | Filter Rows:

Laptops_with_Retina_Display
17

6. Show laptops with OS = 'Windows 10' and RAM = 8GB.

   SELECT Company, Product, OS, Ram
   FROM laptop_prices
   WHERE Ram = 8 and OS = "Windows 10";

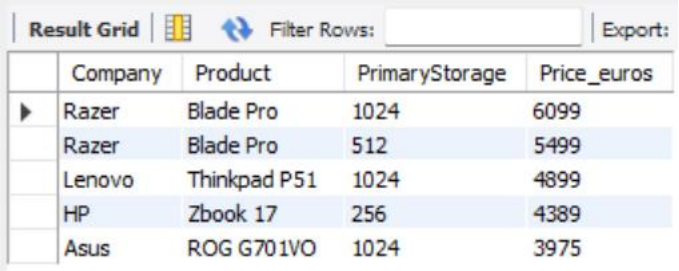
Output: File attached.

Intermediate Level Queries

7. Find the top 5 most expensive laptops.

   SELECT Company, Product,PrimaryStorage, Price_euros
   FROM laptop_prices
   ORDER BY Price_euros DESC
   LIMIT 5;

Output:



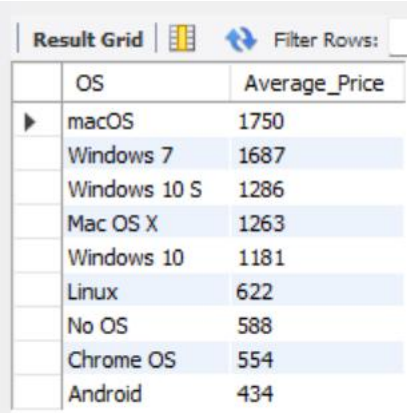
Result Grid | Filter Rows: | Export:

Company	Product	PrimaryStorage	Price_euros
Razer	Blade Pro	1024	6099
Razer	Blade Pro	512	5499
Lenovo	Thinkpad P51	1024	4899
HP	Zbook 17	256	4389
Asus	ROG G701VO	1024	3975

8. Get the average price of laptops for each OS.

   SELECT Company, Product,PrimaryStorage, Price_euros
   FROM laptop_prices
   ORDER BY Price_euros DESC
   LIMIT 5;

Output:



Result Grid | Filter Rows:

OS	Average_Price
macOS	1750
Windows 7	1687
Windows 10 S	1286
Mac OS X	1263
Windows 10	1181
Linux	622
No OS	588
Chrome OS	554
Android	434

9. Find laptops with SSD (Primary Storage Type = 'SSD') and price less than 1000 euros.

```
SELECT OS, ROUND(AVG(Price_euros)) as Average_Price
FROM laptop_prices
GROUP BY OS
ORDER BY Average_Price DESC;
```

Output: File attached.

10. Find number of touchscreen laptops by each company.

```
SELECT Company, COUNT(*) as TouchScreen_Count
FROM laptop_prices
GROUP BY Company
ORDER BY TouchScreen_Count DESC;
```

Output:

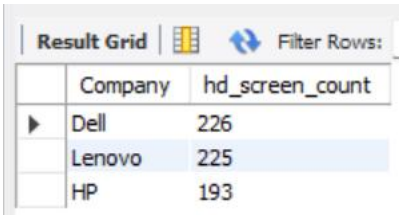
Result Grid | Filter Rows:

Company	TouchScreen_Count
Dell	291
Lenovo	289
HP	268
Asus	152
Acer	101
MSI	54
Toshiba	48
Apple	21
Samsung	9
Razer	7
Mediacom	7
Microsoft	6
Xiaomi	4
Vero	4
Chuwi	3
Google	3
Fujitsu	3
LG	3
Huawei	2

11. Show top 3 companies by number of high-resolution screens (ScreenW ≥ 1920).

```
SELECT Company, COUNT(*) as hd_screen_count
FROM laptop_prices
WHERE ScreenW >= 1920
GROUP BY Company
ORDER BY hd_screen_count DESC
LIMIT 3;
```

Output:

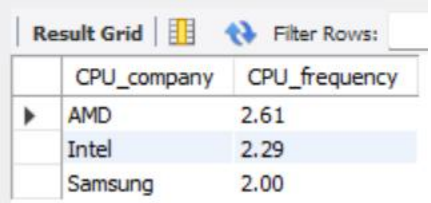


Company	hd_screen_count
Dell	226
Lenovo	225
HP	193

12. List average CPU frequency grouped by CPU company.

```
SELECT CPU_company, CAST(AVG(CPU_freq) as decimal(10,2)) as CPU_frequency
FROM laptop_prices
GROUP BY CPU_company
ORDER BY CPU_frequency DESC;
```

Output:



CPU_company	CPU_frequency
AMD	2.61
Intel	2.29
Samsung	2.00

Hard Level Queries

13. Rank laptops by price within each company (using window functions).

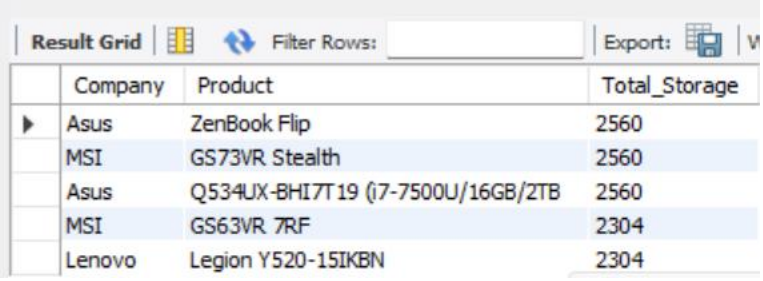
```
SELECT Company, Product, Price_euros,
   RANK() OVER(PARTITION BY Company ORDER BY Price_euros DESC) as Laptop_Rank
FROM laptop_prices;
```

Output: File attached.

14. Find the total primary + secondary storage for each laptop and show top 5 with highest total.

```
SELECT Company, Product, (PrimaryStorage + SecondaryStorage) as Total_Storage
FROM laptop_prices
ORDER BY Total_Storage DESC
LIMIT 5;
```

Output:



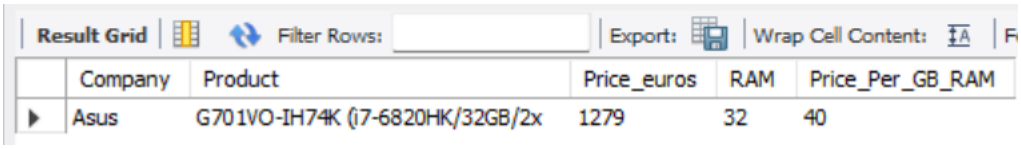
Company	Product	Total_Storage
Asus	ZenBook Flip	2560
MSI	GS73VR Stealth	2560
Asus	Q534UX-BHI7T19 (i7-7500U/16GB/2TB	2560
MSI	GS63VR 7RF	2304
Lenovo	Legion Y520-15IKBN	2304

15. Get the laptop(s) with the best price-to-RAM ratio (lowest price per GB RAM).

```
SELECT Company, Product, Price_euros, RAM,
ROUND( Price_euros / RAM) as Price_Per_GB_RAM
```

```
FROM laptop_prices
ORDER BY Price_Per_GB_RAM
LIMIT 1;
```

Output:

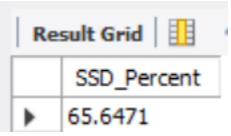


Company	Product	Price_euros	RAM	Price_Per_GB_RAM
Asus	G701VO-IH74K (i7-6820HK/32GB/2x	1279	32	40

16. Calculate percentage of laptops that have SSD as primary storage.

```
SELECT
  SUM(CASE WHEN PrimaryStorageType = "SSD" THEN 1 ELSE 0 END) * 100 / COUNT(*) as SSD_Percent
FROM laptop_prices
```

Output:

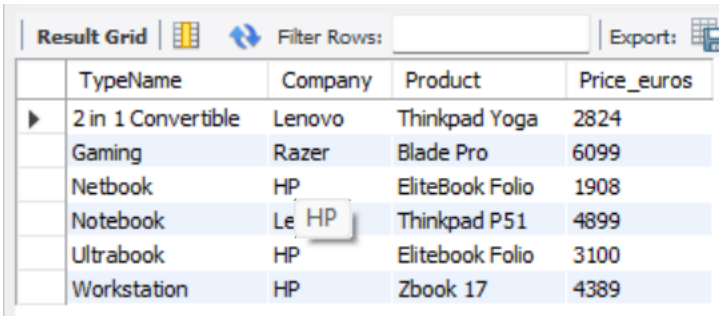


SSD_Percent
65.6471

17. Show the most expensive laptop for each type (using window functions).

```
SELECT TypeName, Company, Product, Price_euros
FROM(
  SELECT *, ROW_NUMBER() OVER(PARTITION BY TypeName ORDER BY Price_euros DESC) as rn
  FROM laptop_prices
  ) as ranked
WHERE rn = 1;
```

Output:

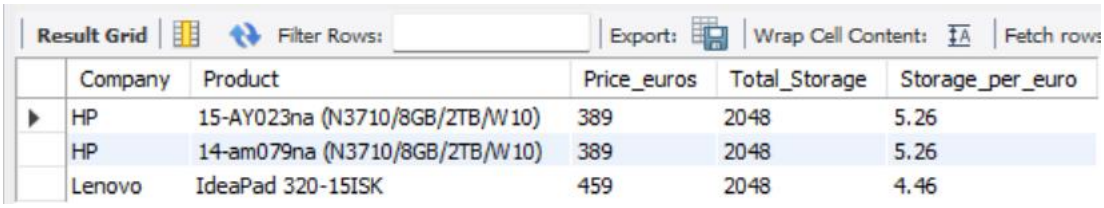


TypeName	Company	Product	Price_euros
2 in 1 Convertible	Lenovo	Thinkpad Yoga	2824
Gaming	Razer	Blade Pro	6099
Netbook	HP	EliteBook Folio	1908
Notebook	Le	Thinkpad P51	4899
Ultrabook	HP	Elitebook Folio	3100
Workstation	HP	Zbook 17	4389

18. Find the top 3 laptops with the best storage-to-price ratio.

```
SELECT Company, Product, Price_euros, (PrimaryStorage + SecondaryStorage) as Total_Storage,
ROUND((PrimaryStorage + SecondaryStorage) / Price_euros , 2) as Storage_per_euro
FROM laptop_prices
ORDER BY Storage_per_euro DESC
LIMIT 3;
```

Output:



Company	Product	Price_euros	Total_Storage	Storage_per_euro
HP	15-AY023na (N3710/8GB/2TB/W10)	389	2048	5.26
HP	14-am079na (N3710/8GB/2TB/W10)	389	2048	5.26
Lenovo	IdeaPad 320-15ISK	459	2048	4.46