Amazon Interview Questions & Answers

A. SQL Questions & Answers

Question 1:
You have two tables: Product and Supplier.
- Product Table Columns: Product_id, Product_Name, Supplier_id, Price
- Supplier Table Columns: Supplier_id, Supplier_Name, Country

Write an SQL query to find the name of the product with the highest price in each country.

Answer:

```
SELECT
   s.Country,
   p.Product_Name,
   p.Price
FROM
   Product p
JOIN
   Supplier s ON p.Supplier_id = s.Supplier_id
WHERE
   (s.Country, p.Price) IN (
      SELECT
         s2.Country,
         MAX(p2.Price)
      FROM
         Product p2
      JOIN
         Supplier s2 ON p2.Supplier_id = s2.Supplier_id
      GROUP BY s2.Country
   );
```

Question 2:
You have two tables: Customer and Transaction.
- Customer Table Columns: Customer_id, Customer_Name, Registration_Date
- Transaction Table Columns: Transaction_id, Customer_id, Transaction_Date, Amount

Write an SQL query to calculate the total transaction amount for each customer for the current year. The output should contain Customer_Name and the total amount.

Answer:

```
SELECT
   c.Customer_Name,
   SUM(t.Amount) AS Total_Amount
FROM
   Customer c
JOIN
   Transaction t ON c.Customer_id = t.Customer_id
WHERE
   YEAR(t.Transaction_Date) = YEAR(CURDATE())
GROUP BY
   c.Customer_Name;
```

Question 3:
Write an SQL query to find customers who have not made any transactions this year.

Answer:

```
SELECT
   c.Customer_Name
FROM
   Customer c
LEFT JOIN
   Transaction t ON c.Customer_id = t.Customer_id
```

```
    AND YEAR(t.Transaction_Date) = YEAR(CURDATE())
WHERE
    t.Transaction_id IS NULL;
```

Question 4:
Find the third highest salary from the Employee table using DENSE_RANK.

Answer:

```
WITH SalaryRank AS (
    SELECT
        Salary,
        DENSE_RANK() OVER (ORDER BY Salary DESC) AS Rank
    FROM
        Employee
)
SELECT
    Salary
FROM
    SalaryRank
WHERE
    Rank = 3;
```

Question 5:
Write an SQL query to fetch the total number of transactions and the average transaction amount for each customer.

Answer:

```
SELECT
    c.Customer_Name,
    COUNT(t.Transaction_id) AS Transaction_Count,
    AVG(t.Amount) AS Average_Amount
FROM
    Customer c
```

```
JOIN
    Transaction t ON c.Customer_id = t.Customer_id
GROUP BY
    c.Customer_Name;
```

B. Python Questions & Answers

Question 1:
You have a DataFrame called df_sales with columns Product_Name, Country, and Price. Write a pandas code to find the name of the product with the highest price in each country.

Answer:

```
df_sales.loc[df_sales.groupby('Country')['Price'].idxmax()]
```

Question 2:
You have two DataFrames: df_customer with columns Customer_id, Customer_Name, and Registration_Date, and df_transaction with columns Transaction_id, Customer_id, Transaction_Date, and Amount. Write a pandas code to calculate the total transaction amount for each customer for the current year.

Answer:

```
import pandas as pd
from datetime import datetime

current_year = datetime.now().year
df_transaction['Transaction_Date'] =
pd.to_datetime(df_transaction['Transaction_Date'])

df_transaction_current_year =
df_transaction[df_transaction['Transaction_Date'].dt.year == current_year]
```

```
df_total =
df_transaction_current_year.groupby('Customer_id')['Amount'].sum().reset_index()
df_total = df_total.merge(df_customer[['Customer_id', 'Customer_Name']],
on='Customer_id')
```

Question 3:
You have a DataFrame df with columns Employee_ID, Employee_Name, and Salary. Write pandas code to fetch the third highest salary using rank.

Answer:

```
df['Salary_Rank'] = df['Salary'].rank(method='dense', ascending=False)
df_third_highest_salary = df[df['Salary_Rank'] == 3]['Salary']
```

Question 4:
You have a DataFrame df with columns Transaction_ID, Customer_ID, and Amount. Write a pandas code to calculate the average transaction amount for each customer.

Answer:

```
df_avg = df.groupby('Customer_ID')['Amount'].mean().reset_index()
```

Question 5:
You have two DataFrames df1 and df2. Write pandas code to merge them on a common column 'ID'.

Answer:

```
df_merged = pd.merge(df1, df2, on='ID')
```

C. Leadership or Situational Questions

For these below-mentioned questions, you have to give your answer based on your experience. Just keep a few things in mind while answering: use the STAR approach (Situation, Task, Action, Result), and don't repeat the same experience or story in every question's answers.

Question 1:
Tell us about a time when you had to support a decision you disagreed with. How did you handle it, and what was the result?

Question 2:
Describe an instance where you went above and beyond to build or regain trust with a colleague or client. What was the situation, and what were the outcomes?

Question 3:
Can you share an example of when you had to find an innovative solution to a complex problem? How did you simplify the process or solution for everyone involved?

Question 4:
Tell us about a situation where you had to adapt quickly to changes and handle a challenging situation effectively.

Question 5:
Describe a time when you led a project that had ambiguous requirements. How did you navigate through it?

D. Excel Questions & Answers

Question 1:
Write the formula to sum values in column B where the corresponding values in column A are greater than 10.

Answer:

=SUMIFS(B:B, A:A, ">10")

Question 2:
Write the formula to count the number of cells in column C where the value is "Completed".

Answer:

=COUNTIFS(C:C, "Completed")

Question 3:
Write the formula to find the value in column B corresponding to the maximum value in column A.

Answer:

=INDEX(B:B, MATCH(MAX(A:A), A:A, 0))

Question 4:
Explain how to create a pivot table that shows the total sales by product category from a dataset containing columns for Sales, Product_Category, and Region.

Answer:

1. Select the dataset.
2. Go to the Insert tab and click on "Pivot Table".
3. Choose the location for the Pivot Table.
4. Drag "Product_Category" to the Rows area.
5. Drag "Sales" to the Values area, and it will sum the sales by default.

Question 5:
Write a formula to find the average sales in column B where the values in column A are "East" and column C is greater than 100.

Answer:

=AVERAGEIFS(B:B, A:A, "East", C:C, ">100")

THANKS !!

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