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Database System - Assignments 3

Q.1)

1) π Country_Name ((σ Severity_Level = "Critical" $\wedge$ Date_Reported LIKE "2025%")
(INCIDENT $\bowtie$ THREAT $\bowtie$ COUNTRY))

2) π Team_Name ((σ Resolution_status = "Successful")
(ACTION_TAKEN $\bowtie$ RESPONSE_TEAM $\bowtie$ (σ Category = "Ransomware"
(THREAT) $\bowtie$ INCIDENT))

3) π Country_Name (COUNTRY) $-$ π Country_Name (COUNTRY $\bowtie$ RESPONSE_TEAM)

4) π Threat_Name ((σ COUNT (DISTINCT Country_ID) > 1 (
    γ Threat_ID   COUNT (DISTINCT Country_ID) (INCIDENT)
    )) $\bowtie$ THREAT)

5) π Incident_ID, Country_Name, Impact_Score (σ Category = "AI Attack" $\wedge$
    Impact_Score > 80
    (THREAT $\bowtie$ INCIDENT $\bowtie$ COUNTRY))

Q.2)

1) displaying the names of items unavailable, having price greater than 500
```sql
SELECT itemName
FROM MenuItem
WHERE isAvailable = 0   AND price > 500;
```

2) displaying the names of menu items that are either beverages with price greater than 300 or desserts
```sql
SELECT itemName FROM MenuItem WHERE (category = 'Beverage' AND
prices > 300) OR category = 'Dessert';
```

3) displaying names ad prices of all menu items that are snacks and are available

SELECT itemName, price FROM MenuItem WHERE (category='Snack' AND isAvailable=1);

4) displaying names ad prices (divided by 100); adjusted price of all menu items that are snacks & are available.

SELECT itemName, price/100 AS adjustedPrice FROM MenuItem WHERE (category='Snack' AND isAvailable=1);

5) finding suppliers who ~~delivered~~ supplied 'Cappuccino'

SELECT DISTINCT s.supplierID FROM supplies s JOIN MenuItem m ON s.itemID = m.itemID WHERE m.itemName = 'Cappuccino';

6) displaying the names of employees who work at a cafe that's located in the same city as their address, along with that cafe name

SELECT e.name, c.cafeName FROM Employee e JOIN Cafe c ON e.cafeID = c.cafeID WHERE e.address = c.city;

7) display the employeeID of employees whoose salary is not equal to 50000

SELECT empID
FROM Employee
WHERE salary <> 50000;

8) display the supplier IDs of suppliers that are located in both Karachi & Lahore.
SELECT supplierID FROM supplier WHERE city='Karachi' INTERSECT
SELECT supplierID FROM supplier WHERE city='Lahore';

9) finding names of menu items that are not supplied by any supplier

```sql
SELECT itemName  FROM MenuItem WHERE itemID  NOT IN(
        SELECT  DISTINCT  itemID
        FROM   Supplies
    );
```