

Confidential Scenario Run Through

This document contains the solutions and logic behind each scenario as well as the SQL queries the participants are expected to learn about and run.

Preamble – What participants will need to do to even get started. They can use MySQL to play around with, as it does look nicer than Python – but they will need Python to submit and check their answers. Let participants read the guides.

SHOW DATABASES;

 Show selectable databases.

USE sqlchallengedb;

 Select the Database to use.

SHOW TABLES;

 Show all defined tables in the selected database.

SHOW TABLE STATUS;

 Show comments of all defined tables in the selected database. This will show participants how to submit their answers.

Scenario 1

Query 1 – gets them to use a standard SELECT statement with an **ORDER BY** clause.

```
SELECT *  
FROM Briefings  
ORDER BY DATE DESC;
```

This leads to:

7	German Federal Bank	The German Federal Bank — Germany's central bank — has been robbed. During the robbery, the security system was hacked, and reports say the temperature of the surrounding area dropped to approximately -3°C.
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From this description they would use the BriefingID to get the next chunk of information, which are the Witness statements.

Query 2 - gets them to use a standard SELECT statement with a **WHERE** clause:

```
SELECT * FROM Witnesses WHERE BriefingID = 7;
```

Returns:

7	Christine Fine	Barista	30	Female
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It was freezing in there!

7	Sharan Moore	Bank Worker	27	Female
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I was at my desk when a gush of wind went past behind me. When I looked to see what it was, all I saw was a glimpse of someone wearing a bright red top.

7	Martin Jones	Metalsmith	34	Male
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I was going to the bank to manage my account when coins started flying everywhere. It didn't look random though; it was like someone was controlling them.

7	Johnny Smith	Not Given	25	Male
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I was walking past the bank when I saw a big explosion from the second floor. When it happened, this guy on a hoverboard made a beeline for the entrance. Weird. *Note* When Mr Smith was asked about the cold weather, he said he didn't notice it.

Information they have:

- Security systems hacked, money stolen, temperature dropped to -3°C.
- Somebody fast and wears a bright red top.
- Coins flew everywhere; maybe controlled.
- There was a big explosion from the second floor.
- There was a person on a hoverboard.

They would search for Villain Teams/Villains that have abilities similar to:

- Hacking
- Explosions
- Super Speed
- Freezing/cold

Query 3 – Gets them to use **LIKE** and **OR** for the first time. **ORDER BY** again but on an alphanumeric column.

```
SELECT * FROM Villains WHERE Abilities LIKE "%Hack%" OR Abilities LIKE "%Explosion%"  
OR Abilities LIKE "%Explode%" OR Abilities LIKE "%Speed%" OR Abilities LIKE "%Freeze  
%" ORDER BY TeamName DESC;
```

Would return:

- Fox. Team 7
- Man in the Van. Team 5
- Evil Her-mes Team 5
- Chicken Threat. Team 4
- Lustre. Team 2
- Rat Run. Team 1
- Never Mist. Team 1
- Bistro. Independent
- Hoop. Independent
- Cannonball. Independent
- MechAneurysm. ????
- Johnny Tex. ????

- Blasta la Vista. ????
- Johnny Tex. ????
- Lenore Dare. ????

Red herring team is: MechAneurysm, Rat Run, Blasta la Vista, Never Mist.

Rat Run and Never Mist's team is the same, MechAneurysm matches the hoverboard description, Blasta la Vista matches the explosion description.

```
SELECT * FROM Villains WHERE TeamName = 'Team 1'
```

Returns:

Valerie Bell

Rat Run

```
SELECT * FROM Villains WHERE TeamName="?????";
```

Returns:

Queen Bee (can be disregarded)

Frank Horrigan

Lenore Dare (only one which matches hacker and hoverboard description)

Maka Hirano (only one which matches explosion description)

Johnny Tex

So, 2 of these are in Team 1 (which is Maka and Lenore)

Here they could get that the full Team 1 is:

- MechAneurysm
- Never Mist
- Rat Run
- Blasta la Vista
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The team would be rejected, and they would have to review the only other team it could have been.

Hopefully they would have enough information to understand that Freeze Tag's name is Johnny, who was one of the witnesses in the bank robbery; and therefore, disregard everything he said in his statement. This is also supported by "Johnny Smith" not noticing the cold.

Johnny Tex also had a wedding with Victoria Ruvin, further supporting the idea it is him.

Facts:

- Security systems hacked. (Man in the Van)
- Temperature dropped to -3°C. (Freeze Tag)
- Somebody fast and wears a bright red top. (Evil Her-mes)
- Coins flew everywhere; maybe controlled. (Hellakinetic)

Final Solution – Using **INSERT INTO** for the first time:

INSERT INTO Solutions

values(1, 'Hellakinetic, Evil Her-mes, Man in the Van, Freeze Tag')

Scenario 2

Here they need to pick a team to fight the villains. Pyra cancels out Freeze Tag, Time Warp cancels out Evil Her-mes, Doomba cancels out Man in the Van, and Prop cancels out Hellakinetic.

Final solution – Using an **aggregate function SUM()** and **multiple ORs** for the first time

```
INSERT INTO PlanetHeroes.Solutions
```

```
values(2, "SELECT SUM(COST)
```

```
FROM PlanetHeroes.Heroes
```

```
where Name = 'Pyra'
```

```
or Name = 'Time Warp'
```

```
or Name = 'Doomba'
```

```
or Name = 'Prop');
```

Result:

Yes that's it, these are the heroes for the job! They are the light to their darkness, the paper to their rock, the snag to their cape! And within budget, too... maybe we could still haggle them down to a pizza party? Anyway, now, you just have to find where those wretched rogues are holed up. Take a look at the tables, review the evidence, and find their hideout for Scenario 3!

Scenario 3

Here they get the average EvilVibeScores for each Sector from the Locations table. The Sector with the highest average EvilVibeScore should be Sector A.

Final Solution – Using a **GROUP BY** clause and **AVG()** aggregate function for the first time

```
INSERT INTO planetheroes.solutions
```

```
VALUES(3, "SELECT  
    Sector  
    ,AVG(EvilVibeScore)  
    from planetheroes.locations  
    group by sector  
    ;")
```

Result:

That's it, you found the averages for each sector! Remember the hideout we are after is in the sector with the highest average EvilVibeScore. Review the evidence, study the locations, and determine the location of those conniving bandits to submit as the answer for Scenario 4!

Scenario 4

Here participants need to figure which location houses the villains. Celadon Cathedral has the temperature for Freeze Tag and Wi-fi for Man in the Van.

Final solution –

INSERT INTO PlanetHeroes.Solutions

values(3, 'Celadon Cathedral');

Result:

The Celadon Cathedral, of course! We will dispatch the heroes immediately!

The heroes arrive at the cathedral, tripping the villains' security system and alerting them to their presence. The villains scramble to their feet, take their marks, and prepare for battle.

Evil Her-mes speeds towards the heroes, in her signature bright red puffer. Time Warp slows down time, catches up to Evil Her-mes, and handcuffs her.

As Doomba vacuums centuries-old dust from the floor, Man in the Van tries to hack into the heroes' comms from his van, which is strangely inside. Doomba delivers an EMP blast, disabling his equipment, and trapping him in his van. He knocks on the door for a while but soon gives up.

Freeze Tag runs towards the heroes and tries to tag them. Pyra fires off a burst of flame straight towards Freeze Tag. Freeze Tag's ice melts, and he is left standing in a lukewarm puddle, his powers cancelled out.

Hellakinetic grabs a chair from rows of chairs in the cathedral and telekinetically flings it at an astonishing speed towards Prop. Prop morphs into the chair and sends it flying back

towards Hellakinetic. The chair crashes into Hellakinetic, sending him flying into a wall and knocking him unconscious.

The victorious heroes bring the defeated villains to the time out corner to stay and think about what they've done before searching for the bags of stolen money. They find it in the crypt. The heroes bring it back to the bank, and the bank workers are overjoyed. They thank the heroes profusely. The heroes thank them, and take their leave.

Congratulations, you've solved the mystery! Go and let Leanna or Serhat know so they can tell you what to do next.