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1.0 INTRODUCTION

RMS Titanic was a British passenger liner, operated by the White Star Line, which sank in the North Atlantic Ocean on 15 April 1912 after striking an iceberg during her maiden voyage from Southampton, UK, to New York City, United States. Of the estimated 2,224 passengers and crew aboard, more than 1,500 died, making it the deadliest sinking of a single ship up to that time.

This tragic event of Titanic has inspired countless books, articles and films (including the 1997 "Titanic" movie starring Kate Winslet and Leonardo DiCaprio), and the ship's story has entered the public consciousness as a cautionary tale about the perils of human hubris.

Even though the incident has been part of the world's most famous historical event and been told in many forms, it still left many people especially researchers wondering questions in their minds. Hence, how do we answer these thoughts? How do we unravel the mysteries? With data, a whole new story can be told.

2.0 QUESTIONS

1. What is the overall survival rate from this incident?
2. Does the survival rate differ according to passengers' ticket class?
3. Do females have a higher survival rate in this accident?

3.0 METHODOLOGY

Titanic database was downloaded from the TalentLabs LMS and its data scheme is referred from Kaggle via the provided link. The database was then opened in SQLite where the query was tested below to observe the columns and rows in the passengers table present in the database.

SELECT*FROM passengers

Following the initial assessment, the exploration was proceeded of the questions listed above with the respective SQL queries.

3.1 What is the overall survival rate from this incident?
From the data set, the overall survival rate of the incident was calculated which told how many people survived and died from the tragedy.

Overall, out of 891 on board, 38.38% (342) of the passengers survived the collision. On the contrary, more than half at 61.62% (549) died on that night demonstrating a horrific disaster.

```
SELECT
   CASE
    WHEN Survived = 1 THEN 'Survived'
    ELSE 'Deceased'
    END AS status,
(ROUND(1.0*COUNT(*)/MAX(total_passengers),4)*100)AS
survival_rate,COUNT(*) AS number_of_passengers,
MAX(total_passengers)AS total_passengers
FROM
(SELECT
survived,
COUNT(*) OVER() total_passengers
FROM passengers)

GROUP By Survived
```

OUTPUT:

	status	survival_rate	number_of_passengers	total_passengers
1	Deceased	61.62	549	891
2	Survived	38.38	342	891

3.2 Does the survival rate differ according to passengers' ticket class?

The following query was written to obtain the passengers' survival rate based on their ticket class.

```
SELECT
CASE
WHEN pclass = 1 THEN 'First'
WHEN pclass = 2 THEN 'Second'
ELSE 'Third'
END AS ticket_class,
(ROUND(1.0 * SUM(survived)/MAX(class),4)*100)AS
survival_rate, SUM(survived)AS number_survived, MAX(class)
AS total_passengers
FROM
( SELECT pclass, survived, COUNT(*) OVER (PARTITION BY
pclass) AS class FROM passengers)
GROUP BY pclass
```

	ticket_class	survival_rate	number_survived	total_passengers
1	First	62.96	136	216
2	Second	47.28	87	184
3	Third	24.24	119	491

Based on the table above, upper-class passengers survived at rate of 62.96%, which is more than twice the rate of lower-class passengers at 24%. The ticket class reflects the passengers' socioeconomic position. From this question, we get to know the wealthy had a greater chance of survival since they are given the privilege to execute and board the rescue boat quicker.

3.3 Does females have a higher survival rate in this accident?

Following from the previous question, it seems that "women first" are applied in emergency situations and in this case when loading lifeboats. Therefore, it wouldn't matter if you are a first-class ticket holder if you are a male.

```
SELECT
sex,
(ROUND(1.0 * SUM(survived) / MAX(gender), 4) *100) AS survival_rate,
SUM(survived) AS number_survived,
MAX(gender) AS total_passengers
FROM
(
SELECT
sex,
survived,
COUNT(*) OVER (PARTITION BY sex) AS gender
FROM passengers
)
GROUP BY sex
```

OUTPUT:

	sex	survival_rate	number_survived	total_passengers
1	female	74.2	233	314
2	male	18.89	109	577

The finding shows us that female is more likely to survive the accident, according to the data, with a survival rate of 74.2% compared to male at 18.89%. Hence, the "woman first rule" applied here is true.

4.0 CONCLUSION

Overall, we can conclude that the horrific tragedy that sinks the mighty Titanic to the bottom of the freezing Atlantic Ocean has claimed countless innocent people lives with only less than 40% of the total passengers surviving. In addition to the privilege of holding much expensive ticket, women also have the priority to board the rescue boats first. Therefore, it is observed that first-call ticket holders and female have higher chances of survival from this incident

REFERENCES

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