17BCE0361
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Lead Squared Assignment

Section 1 - Queries

Consider the following employee data in relational tables and write queries for questions below the data:

1. Write a query to print the number of employees per department in the organization

SELECT COUNT (*) FROM Employee GROUP BY DEPARTMENT;

2. Write an SQL query to find the name of the top-level manager of each department

SELECT FIRST_NAME, LAST_NAME FROM Employee WHERE MANAGER IN

(SELECT MAX(MANAGER) FROM Employee GROUP BY DEPARTMENT);

3. Write a query to find the total incentive received by a given employee in a given month.

SELECT EMPLOYEE_REF_ID, SUM(Incentive) FROM Incentive GROUP BY MONTH(INCENTIVE_DATE);

4. Write a query to find the month where employees got maximum incentive

SELECT MONTH (JOINING_DATE), MAX(INCENTIVE_AMOUNT) FROM Employee JOIN Incentive;

Section 2:

Please read through the problems/questions and write down your answer.

5. You have two sand timers, which can show 4 minutes and 7 minutes respectively. Use both the sand timers (at a time or one after other or any other combination) and measure a time of 9 minutes.

1. Start the 7-minute Sand timer and the 4-minute Sand timer.

2. Once the 4-minute Sand timer ends turn it upside down instantly.

Time Elapsed: 4 minutes. At this moment, 3 minutes of sand is left in the 7-minute sand timer.

3. Once the 7-minute sand timer ends turn it upside down instantly.

Time Elapsed: 7 minutes. At this moment, 1 minutes of sand is left in the 4-minute sand timer.

4. After the 4-minute sand timer ends, only 1 minute is elapsed in 7-minute sand timer, therefore for another minute turn the 7-minute sand timer upside down. Time Elapsed - 8 minutes.

5. When the 7-minute sand timer ends, total time elapsed is 9 minutes, So effectively 8+1 = 9.

6. John and Mary are a married couple. They have two kids, one of them is a girl. Assume safely that the probability of each gender is 1/2.

What is the probability that the other kid is also a girl?

Since we know that one of the children is a girl, we have these choices:

(Girl, Girl), (Boy, Girl), (Girl, Boy)

This is called the **sample space**, it's all of the possible outcomes given the constraints applied in our specific inquiry. That is, that at least one of the children is a girl.

Of these three outcomes, we can see that there is only one that satisfies the condition that both children are girls:

(Girl, Girl), (Boy, Girl), (Girl, Boy)

So, our answer is 1/3

7. The following appeared as part of a campaign to sell advertising time on a local radio station to local businesses.

Ron's Cafe began advertising on our local radio station this year and was delighted to see its business increase by 10 percent over last year's totals. Their success shows

you how you can use radio advertising to make your business more profitable.

Discuss how well reasoned you find this argument. In your discussion be sure to analyse the line of reasoning and the use of evidence in the argument. For

example, you may need to consider what questionable assumptions underline the thinking and what alternative explanations or counterexamples might weaken

the conclusion. You can also discuss what sort of evidence would strengthen or refute the argument, what changes in the argument would make it more logically

sound and what, if anything, would help you better evaluate in conclusion.

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The writer in the argument concludes that as the cumquat cafe increased its business by 10 percent over the last year by advertising in the local radio station, so other businesses should follow suit and advertise their businesses on the local radio to make their business more profitable. However, the **argument is flawed** because it fails to supply sufficient support in favour of the argument.

First, we are told that for Cumquat Cafe increased its business by 10 percent over the last year by advertising in the local radio, but it **does not provide proof** that the advertisement caused the increase. If the previous scenario holds true, then companies actually might not be increasing their profits.

Second, even if we consider that the business for cumquat coffee increased after it advertised in the local radio, we **cannot be sure that this will happen for other businesses**. It could well be the case that many people who listen to the radio might be coffee consumers, but might not be interested in other products. Therefore, the **generalization that the author makes** based on a single case might not hold true for other scenarios or businesses.

Finally, there could be other alternate reasons that could have contributed to the success of the cafe business such as opening of a new outlet or better management of the cafe resources or introduction of a new product in the cafe outlet that sold well**. Any of these reasons could account for the increase in the business**. Therefore, advertising in the local radio might not be the only contributor for the increase in the cafe business.
So according to the analysis the argument is flawed as it does not provide enough support to its statement. It can be made better by working on the flaws mentioned.