1. SELECT DEPARTMENT, COUNT(\*)

FROM Employee

GROUP BY DEPARTMENT;

1. Select FIRST\_NAME, LAST\_NAME, Emp.DEPARTMENT, SALARY from dbo.Employee Emp

INNER JOIN

(Select DEPARTMENT, Max(SALARY) as MaxSalary from dbo.Employee

Group.BY DEPARTMENT) Top\_Manager

ON Emp. DEPARTMENT = Top\_Manager. DEPARTMENT

AND Emp.SALARY = Top\_Manager.MaxSalary

1. .
2. .
3. Given two hourglass of 4 minutes and 7 minutes respectively, our task is to measure 9 minutes using both the hourglass in any combination.

**Step 1**: Start the 7 minute sand timer and the 4 minute sand timer.

**Step 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.

**Step 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.

**Step 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.

**Step 5**: When the 7 minute sand timer ends, total time elapsed is 9 minutes.

**Hence we got 9 minutes.**

1. First, Let's list out all of the possible permutations of gender for two children:

<Girl, Girl>

<Boy, Boy>

<Boy, Girl>

<Girl, Boy>

Let,

G= Girl

B=Boy

Since we know that one of the children is a girl, we can narrow our choices down a bit:

1. <G, G>
2. <B, G>
3. <G, B>

Total outcome = 3

Favourable outcome = 1

∴ Probability = 1/3

1. The author in the argument concludes that as the Ron’s 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 as it fails to supply sufficient support in favor of the argument.

First, we are told that for Ron’s Cafe increased its business by 10 percent over the last year by advertising in the local radio, but it has not been mentioned that whether the increase in the business was offset by the amount of money spent on advertisement in the radio channel. If the previous scenario holds true, then companies actually might not be increasing their profits.

Second, Even if we consider that the business for Ron’s 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.

In light of the above the argument is flawed.