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DoI : 9th December, 2020

Section 1.

Showing rows 0 - 5 (6 total, Query took 0.0016 seconds.)

```
SELECT * FROM `Incentives`
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table

+ Options

employee_ref_id	INCENTIVE_DATE	INCENTIVE_amount
1	2019-02-06	5000
2	2019-02-01	3000
3	2019-02-07	4000
1	2019-01-01	4500
2	2019-04-01	3500
1	2019-02-08	6000

Showing rows 0 - 15 (15 total, Query took 0.0001 seconds.)

```
SELECT * FROM `employee`
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table

+ Options

employee_id	first_name	last_name	salary	joining_date	manager	department
1	John	Abraham	1000000	2019-01-01 12:00:00	3	Banking
2	Michael	Clarke	800000	2019-01-01 12:00:00	4	Insurance
3	Roy	Thomas	700000	2019-02-01 12:00:00	0	Banking
4	Tom	Jose	600000	2019-02-01 12:00:00	NULL	Insurance
4	Tom	Jose	600000	2019-02-01 12:00:00	NULL	Insurance
5	Jerry	Pinto	650000	2019-02-01 12:00:00	4	Insurance
6	Philip	Mathew	750000	2019-01-01 12:00:00	7	Services
5	Jerry	Pinto	650000	2019-02-01 12:00:00	4	Insurance
6	Philip	Mathew	750000	2019-01-01 12:00:00	7	Services
7	TestName1	123	650000	2019-01-01 12:00:00	NULL	Services
7	TestName1	123	650000	2019-01-01 12:00:00	NULL	Services
8	TestName2	Lname%	600000	2019-02-01 12:00:00	4	Insurance
8	TestName2	Lname%	600000	2019-02-01 12:00:00	4	Insurance

1.

Showing rows 0 - 2 (3 total, Query took 0.0029 seconds.)

```
SELECT department,COUNT(*) FROM `employee` GROUP BY department
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 Filter rows: Search this table

+ Options

department	COUNT(*)
Banking	2
Insurance	7
Services	4

2.

Showing rows 0 - 5 (6 total, Query took 0.0024 seconds.)

```
SELECT DISTINCT department,first_name,last_name FROM `employee` WHERE manager is not NULL
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 ▾

Filter rows: Search this table

+ Options

department	first_name	last_name
Banking	John	Abraham
Insurance	Michael	Clarke
Banking	Roy	Thomas
Insurance	Jerry	Pinto
Services	Philip	Mathew
Insurance	TestName2	Lname%

3.

Showing rows 0 - 5 (6 total, Query took 0.0024 seconds.)

```
select first_name,INCENTIVE_DATE,incentive_amount from employee a, Incentives b where a.employee_id = b.employee_ref_id
```

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 ▾

Filter rows: Search this table

+ Options

first_name	INCENTIVE_DATE	incentive_amount
John	2019-02-06	5000
John	2019-01-01	4500
John	2019-02-08	6000
Michael	2019-02-01	3000
Michael	2019-04-01	3500
Roy	2019-02-07	4000

Section 2.

5.

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 finally $8 + 1 = 9$.

6.

Total outcomes = {bb, gg, bg, gb}

$$p(b)=p(g)=1/2$$

We know they had one girl so that leaves us with 3 outcomes i.e. gg, bg, gb

So the probability that the other kid is also a girl is $(1/3)$.

7.

According to me 10% increase in business over a year is not that much in contrast of their efforts in advertising. In today's time they should prefer social media platforms for their advertisements. Because more people are active on social media platforms than for listening local radio. It would be more logically sound if they would have chosen social media platforms for advertising or they could approach any local star for their promotion.

As many of us follows trends that our favourite star do, these might lead to greater profit increase.