```sql
/*
Question-1
What percentage of companies with a 6sense score (ss_score) of at least 85
and were added to the database (created) in January 2018 have been won
(became a 6sense customer)?
*/
SELECT
count(a1.company_name)* 1.0/(select count(company_name)from company_name) as 'percentage'
,DATEPART(year,create_dt)[year],datename(MONTH,create_dt) [Month]
FROM company_name a1
where a1.ss_score>=85 and won = 1
group by DATEPART(year,create_dt), datename([MONTH],create_dt)

--- OR WE CAN do for particular MONTH ALSO

select (count(a1.company_name)* 1.0/(select count(*) from company_name)) as [Perchantage]
from
company_name a1
where ss_score>=85 and ( DATEPART(year,create_dt) = 2018 and DATEPART(MONTH,create_dt) =
1) and won = 1



/*
Question-2
At the company level, what is the average number of contacts that were
interacted with before a successful (won) sale?
*/
select
contact_id,count(rep_name)
from company_name cn
join
Interaction i
on i.contact_id = cn.id
WHERE won = 1 and interaction_dt between create_dt and won_dt
group by i.contact_id

/*
Question-3
What is the interaction channel and the name of BOTH the Sales rep and
Customer Service rep who last interacted with the following companies:
XYZ inc., ABC co., 123 ltd.
Note: Sales reps interact with a company through the date of a sale, while
CS reps interact with a company after the date of sale.
*/

select bb.contact_id
,bb.rep_name,bb.interaction_channel,interaction_by_rep_name,rep_profile

from
(
select
i.contact_id , max(interaction_dt) as 'interaction_by_rep_name','sales_rep' as
[rep_profile]
from company_name cn
join
Interaction i
on i.contact_id = cn.id
```

```
WHERE won = 1 and interaction_dt <=won_dt
group by i.contact_id

UNION ALL

select
i.contact_id , max(interaction_dt) as 'interaction_by_rep_name','customer_rep' as
[rep_profile]
from company_name cn
join
Interaction i
on i.contact_id = cn.id
WHERE won = 1 and interaction_dt >=won_dt
group by i.contact_id
)aa
join
(select
* from
Interaction ii

)bb
on (bb.contact_id = aa.contact_id
and (
bb.interaction_dt = interaction_by_rep_name
)
)

/*
II. The 6sense Marketing team is planning on running a campaign in which they
mail a promotional item to all prospects (individuals) that they met at a recent
event, with the goal that this mailer will lead to a sales call with the prospect.
The 6sense Data Science team has created a “Qualifying Model” that scores all
prospects (those met at previous events, those interacted with through other
channels, and those that have never been contacted) and assigns them a score
(1-100 scale) predicting the likelihood that a prospect, after receiving a
promotional item in the mail, will take a sales call. The Data Science team
suggests that Marketing should target any prospect with a score greater than 70.
How can the team test if targeting with the “Qualifying Model” score impacts
the success of the campaign? Explain how you would perform this test.
*/

--- For Statistical Point of View
The most Reliable way to measure the effectiveness is to divide the prospects into
two parts 1) Where liklehood is greater than 70 (As suggested by Data science team)
and 2) Where liklehood is less than 70.The goal is to understand how much impact the
campaign had on any particular metrics. For This I suggest t-test to run particular
amount of time (lets say for 7-days).For 7 days we will collect the data and meaure
the number of success (when client is won) where liklehood is less than 70 and vice-
versa.

T-Test (1-sample t-test) Hypothesis as follow:
Null Hypothesis: The true difference between these group is zero.
Alternate Hypothesis: The true difference between these group is not zero.

After this we will find the p-value for confidence interval 95% and if p-value is
less than .05 (p-value<.05) we can reject the Null hypothesis and we have sufficent
evidence to say that the liklehood greater than 70 is working.
```