

Teoretiska Frågor

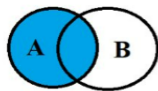
1- **Relation database**: it is logical connection or relations between two or more tables in the database. We can collect information between different tables and we can organize these data as table/s as per our needs.

2- **CRUD**: it is referred to the four functions:

- a. **Create**: To create or insert records.
- b. **Read**: To read records.
- c. **Update**: To updates records.
- d. **Delete**: To delete records.

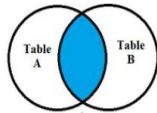
The four functions describe operations for managing data.

3- **Left Join**: return records from the left table (A) and the matching records from right table(B).



Left Join

Inner Join: it returns records that have matching values in both tables.



Inner Join

4- **Indexing**: We use it in the background of database to speed up data retrieval operations and to increase efficiency to find data.

5- **Vy** : a view is virtual table which contains fields (rows and columns) like real table.

These fields from one or more fields from real table/s in the database. We can present view as if the data were coming from one single table.

6- **Stored Procedure in SQL**: We use it to group one or more transactions into logical units and it is stored as object. Then just call it to execute it by using (**EXEC**) .

Deskriptiv sammanfattning

The Adventure world 2022 database is from 2006 to 2014 which includes 74 tables, 290 employee and 19 682 customers in different region. Data base includes also 441 different sold products. This all listed under 5 main Departments:

1. **Human resources (6 Employee):** it is included information's about:
 - a. Employee (information about Employee) ... etc
 - b. Departments (Information about Departments) ... etc
2. **Person:**
 - a. Contact information (Email, Addresses... etc) about employees and customers.
 - b. Personal information like (Password, ID) ... etc
3. **Production (185 Employee):** It is included all information about products like:
 - a. Materials, description, price history, model, Transactions... etc
4. **Purchasing (12 Employee):**
 - a. Purchasing details, purchasing orders... etc
5. **Sales (18 Employee):**
 - a. Sales Currency, sales order details, salesperson, offers ... etc

The others 96 employees is working in Different Departments as shown below:

Department	Number of Employee
Executive	2
Engineering	6
Design	4
Marketing	9
Research and Development	4
Finance	10
Information Services	10
Document Control	5
Quality Assurance	6
Facilities and Maintenance	7
Shipping and receiving	6

Statistics Analysis

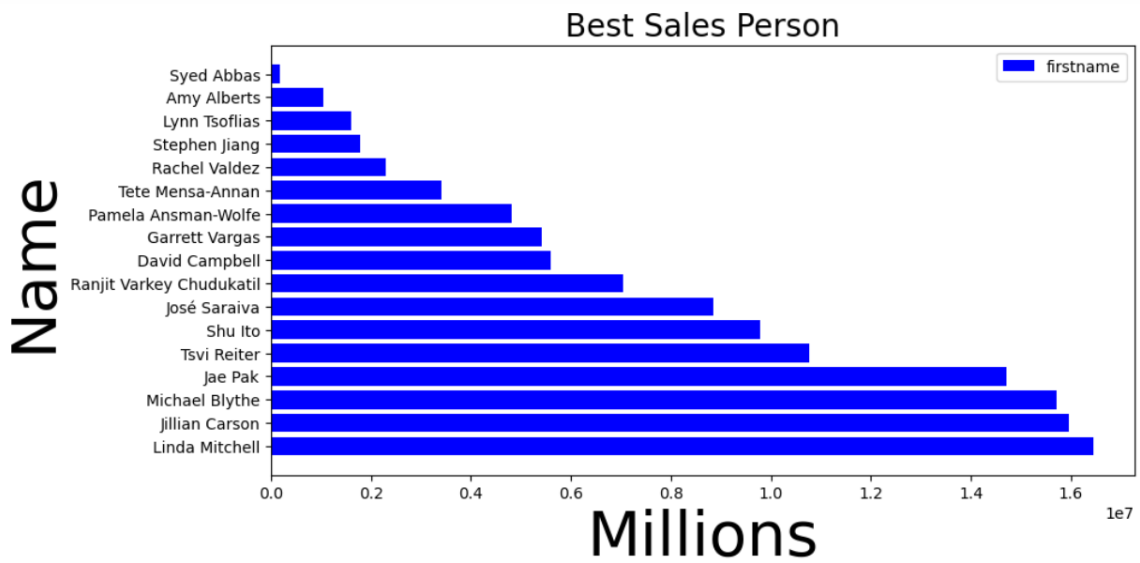
We want to analyse which is the best salesperson in company under period 2011- 2014. Moreover, we will check how my every sales person total sold, how many items they sold, what is total profit or lose under this period and what is top 5 sales products. As per management decision, management need to hire a new sales manager by looking which is the best salesperson and hire him as manager. Management needs also give 2.5 % for all salesperson which reach the target. Moreover, they need to terminate person whose total sales amount is less than **lower value** of **Confidence interval** which is **4,693,008** under period 2011- 2014.

After I checked the tables in all departments (Human resources, person, production, purchasing and sales) I get the below results :

Total Sold Amount	Total Quantity Sold	Total Cost	Profit
125,440,700	98,239	122,932,157	2,508,543

Full Name	ID	Job Title	Gender	Total Qty sold	Sold Amount	Cost	Profit	Decision
Linda Mitchell	276	Sales	Female	11607	16454787.03	15,962,244	492542.3473	Continue
Jillian Carson	277	Sales	Female	13270	15967081.07	15,677,374	289706.5705	Continue
Michael Blythe	275	Sales	Male	11786	15709090.83	15,342,002	367088.821	Continue
Jae Pak	289	Sales	Female	10905	14721635	14,148,601	573033.6567	Continue
Tsvi Reiter	279	Sales	Male	8830	10767862.72	10,559,884	207978.3676	Continue
Shu Ito	281	Sales	Male	7515	9787403.535	9,871,594	84191.23841	Continue
José Saraiva	282	Sales	Male	7318	8858677.491	8,706,589	152088.4322	Continue
Ranjit Varkey Chudukatil	290	Sales	Male	5321	7037510.325	6,863,676	173834.1497	Continue
David Campbell	283	Sales	Male	3481	5591502.926	5,405,345	186157.6127	Continue
Garrett Vargas	278	Sales	Male	5430	5407729.416	5,396,068	11661.33983	Continue
Pamela Ansman-Wolfe	280	Sales Representative	Female	3226	4815272.617	4,586,241	229031.6173	Continue
Tete Mensa-Annan	284	Sales Representative	Male	2783	3406704.395	3,417,968	-11264.0527	Terminate
Rachel Valdez	288	Sales	Female	2551	2291043.101	2,301,628	10585.83945	Terminate
Stephen Jiang	274	North American Sales Manager	Male	1263	1780586.148	1,792,713	12127.46379	Terminate
Lynn Tsoflias	286	Sales	Female	1786	1603195.216	1,656,092	52897.61975	Terminate
Amy Alberts	287	European Sales Manager	Female	845	1057527.699	1,042,138	15389.26082	Terminate
Syed Abbas	285	Pacific Sales Manager	Male	322	183090.411	202,000	18909.79903	Terminate

Statistics Analysis



Slutsatser och rekommendationer

After Collecting data, I recommender the following:

- 11 person reach the target and 6 person do not reach the target.
- The best salesperson is Linda Mitchell which we should hire here as manager.
- Terminate 6 person which did not reach the target and hire others instead of them.
- Total Profit for the period is **2,508,536**. I am recommending hiring more sales personnel to increase the sales and profit.
- The most selling products are as below table:

	ProductID	Name	Most selling
1	870	Water Bottle - 30 oz.	4187
2	873	Patch Kit/8 Patches	3003
3	921	Mountain Tire Tube	2859
4	712	AWC Logo Cap	2348
5	707	Sport-100 Helmet, Red	2278

I recommending to improve the quality of products to increase selling.

6. I notice that company sold many items less than cost price so we should know the reason as per example below:

SalesPersonID	JobTitle	Gender	UnitPrice	StandardCost	OrderQty
276	Sales Representative	F	419,4589	486,7066	1
276	Sales Representative	F	2146,962	2171,2942	1
276	Sales Representative	F	356,898	352,1394	1
276	Sales Representative	F	874,794	884,7083	1

So, we should checked with departments to avoid selling our products less than the cost price.

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Reflektion på eget arbete

1. Utmaningar du haft under arbetet samt hur du hanterat dem:

- a. SQL var helt nytt ämne så jag har läst all informationen som du har skickat och jag har tittat på alla videos som du har gjort plus linkedin videos som du rekommenderat. Jag har testat koder många gånger och följer dina tips.

2. Vilket betyg du anser att du skall ha och varför:

- a. Betyd är absolut viktigt, men jag känner att jag kan klarar sig på SQL och python och jag vet Basics av SQL så jag kan utveckla mer i framtiden.

3. Tips du hade "gett till dig själv" i början av kursen nu när du slutfört den:

- a. Att jag följer läraren instruktioner och förstår varje uppgifter som lärarn skickats till oss. Om jag har tid måste jag kolla på andra olika information som kan hjälpa mig.