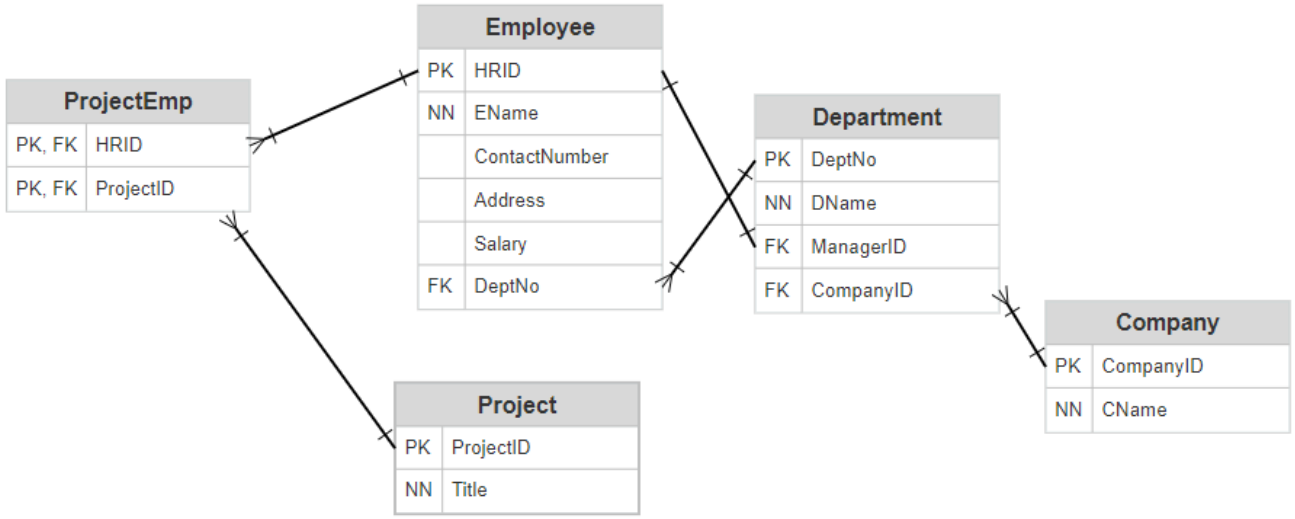
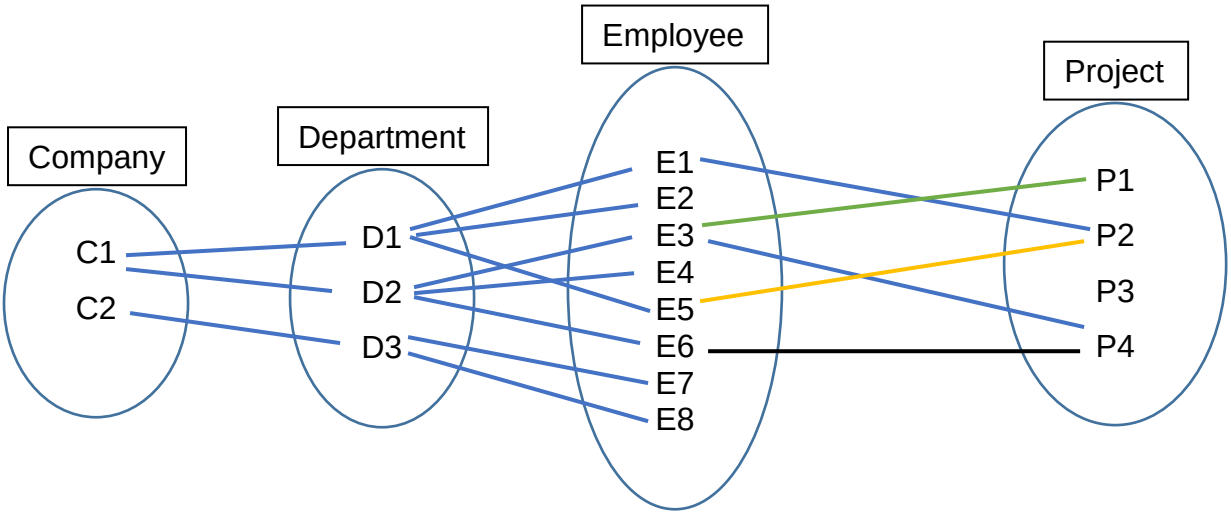
ERD – Crows Foot Notation



Constraints:

Relationships:

Occurrence Diagram

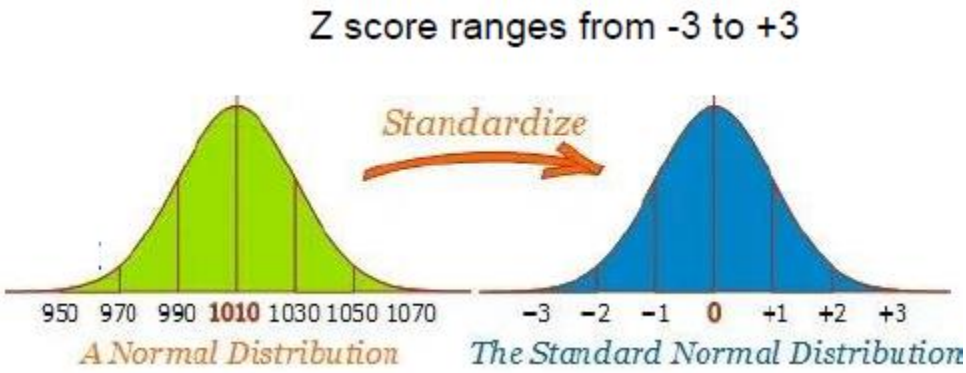


https://www.simplilearn.com/data-analysis-methods-process-types-article

https://www.geeksforgeeks.org/univariate-bivariate-and-multivariate-data-and-its-analysis/

a) Normalizing the data does not change which two records are farthest from each other in terms of Euclidean distance.

b) Standardize gives meaningful Euclidean distances.

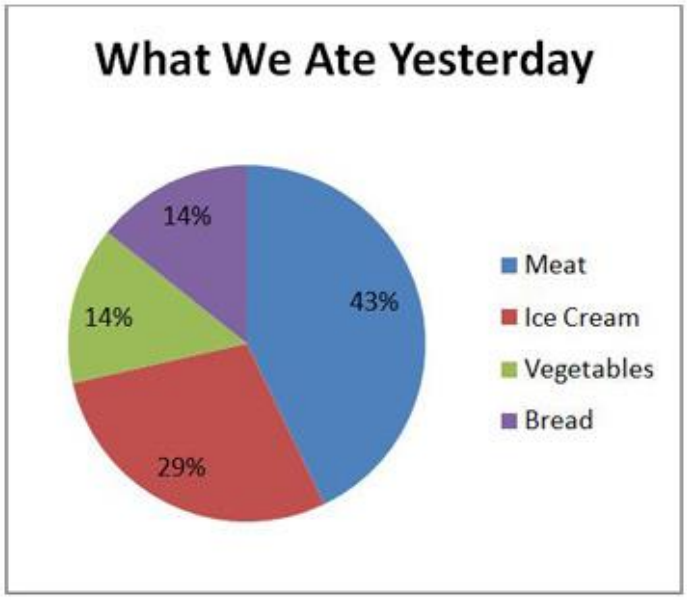


https://towardsdatascience.com/understanding-optimization-algorithms-in-machine-learning-edfdb4df766b

Pie chart

A pie chart displays data, information, and statistics in an easy-to-read 'pie-slice' format with varying slice sizes telling you how much of one data element exists. The bigger the slice, the more of that particular data was gathered.
Let's take, for example, the pie chart shown below. It represents the percentage of people who own various pets. As you can see, the 'dog ownership' slice is by far the largest, which means that most people represented in this chart own a dog as opposed to a cat, fish, or other animal.

Three elements: Title, Add labels, and Legend.



Calculations:

Menu	Number of Dishes	%age
Meat	: 86	86 / 200 x 100 = 43%
Ice Cream	: 58	58 / 200 x 100 = 29%
Vegetables	: 28	28 / 200 x 100 =14%
Bread	: 28	28 / 200 x 100 =14%
Total	: 200	

Database SQL

DELETE: Delete is a DML command, used to remove existing Row(s) from a table.

```
DELETE FROM emp WHERE esmpno = 7983;
```

DROP: Drop is a DDL command, used to remove an object/table from the databse.

```
DROP TABLE emp;
```

TRUNCATE: Truncate is a DDL command, used to remove all existing Row(s) from a table.

```
TRUNCATE TABLE emp;
```

What is a candidate key and when to use?

The super key is an attribute or set of attributes that identifies a unique records in table.
The candidate key referred to as a "minimal" of a super key.

Example: cNIC, empno are the candidate keys of emp table.

Use:

Candidate is an integral part of a super key.

Factors – Cohort Analysis:

The changes in behavior of users are obtained by carrying out the cohort analysis are determined by three factors or effects. The evaluation and weighting of these are the main tasks of interpretation:

- **Cohort effects**
- **Age effects**
- **Period effects**

Cohort effects are the behavioral differences and changes between different cohorts. They can be generally explained by the **existence of different social and environmental influences**. Age effects, on the other hand, are the changes that can be attributed to the increasing **age of people** and their related attitudes. Lastly, period effects represent behavior changes that result from **changing environmental conditions** – regardless of generational and socio-demographic factors.

From these three effects, you can notice any clear trends regarding the behavior of individual groups. On the basis of these trends, you can use them to develop future prognoses or solution strategies. The main task is to separate age, cohort, and period effects, which can occur in every result, from each other. If you include these as **identification problems** in the cohort analysis, you can find a clear reason for the behavioral changes.