

ASSUMPTIONS

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In this document I will mention the assumptions made for the conceptual model for Assignment 1.

1. Entity-Suspension

- A. The entity SUSPENSION is a Weak Entity. This is because it does not contain an attribute of itself that can uniquely identify every row in that entity. It derives the attribute "licence_no." from the entity DRIVER.
- B. The "start_date" attribute defines the start date of the suspension.
- C. The "end_date" attribute defines the end date of the suspension.
- D. Both the attributes "licence_no." and "start_date" form the Identifier *i.e.* KEYS for the entity. This is because a driver can be suspended more than once in the entire period of time, but the combination of "licence_no." and "start_date" of the suspension will always be unique.
- E. As Suspension is a Weak Entity, the relationship between SUSPENSION and DRIVER entities is an Identifying Relationship. Hence represented by solid line.
- F. 1 Driver can face 0 or Many suspensions.
- G. 1 Suspension recorded is for 1 and only 1 driver.
- H. A suspension is issued when a **driver** accumulates **12 demerit points** over a period of **three years**. For this the **driver** is identified in the Offence Entity using the "licence_no." attribute from Driver Entity, the **demerit points** are identified from the "demerit_code" attribute and the "points" attribute (in the Demerit Entity) and the **time** is identified using the "date" attribute from the Offence Entity.

2. Entity-Allocate

- A. The entity ALLOCATE is a Weak Entity. This is because it does not contain an attribute of itself that can uniquely identify every row in that entity. It derives the attribute "officer_id" from the entity POLICE OFFICER and the attribute "station_no" from the entity STATION.
- B. It acts as the Bridging Entity between POLICE OFFICER and STATION.

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- C. The “entry_date” attribute defines the date on which a police officer is allocated to a station.
 - D. The “exit_date” attribute defines the date on which a police officer leaves a station.
 - E. The attributes “officer_id” , “station_no” and “entry_date” form the identifier *i.e.* KEYS for the entity. This is because a particular officer can be allocated to a station more than once in the entire period of time. Hence “entry_date” along with “officer_id” and “station_no” form the identifier.
 - F. As Allocate is a Weak Entity, the relationship between Allocate and Station entities and Allocate and Police Officer entities is an Identifying Relationship. Hence represented by solid line.
 - G. 1 Police Officer can be allocated to 1 or Many Stations.
 - H. 1 Allocation record will be of 1 and only 1 police officer.
 - I. 1 Station will have 1 or Many police officers allocated to it.
 - J. 1 Allocation record will be of 1 and only 1 station.
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- 3. Relationship between Vehicle and Driver is such that 1 vehicle is being operated by 1 and only 1 driver and 1 driver can operate 1 and only 1 vehicle.
 - 4. Relationship between Station and Police Officer is such that 1 station will be lead by 1 and only 1 police officer and 1 police officer can lead 1 and only 1 station.