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For the scenario below identify the entities, their attributes and appropriate keys

The Angel Warehouse

The Angel Warehouse stores items for its parent company. The warehouse is organised into bays, which are storage areas, but the items themselves are stored in bins. Each bay contains a number of bins. Each bay is identified by a unique bay number and the bay location and the height of the bay are recorded. Each bin has a different number within the bay, always starting with bin no. 1, and while some bays have only 5 bins some have over 50. The size of each bin is recorded.

4 things. For forklift.
Some bays have a parking spot for one fork lift to help move items round the warehouse and lift items into bins. Each fork lift is allocated to a bay. Each fork lift has a unique equipment number and the maximum carrying weight of the fork lift needs to be known. Some fork lifts are petrol driven while some are electric.

For all bins the maximum loaded weight must be known.

When an item is taken into the warehouse it is assigned a unique number and the date is recorded as well as the item weight. Bins can store a number of items and when an item is put in a particular bin this date is also recorded. Items can be moved back and forth between bays and bins to optimise the warehouse storage.

Hi i am not sure on which language we are using. I am using the SQL commands from my AQA computer science A level. Thanks.

A table for bay =
CREATE TABLE bay (
Bay_ID PRIMARY KEY INTEGER
Bay_Location VARCHAR (20)
Bay_Height INTEGER
Forklift BOOLEAN
)

For bins..
Each bay contains a number of bins, so we can make a composite key for the bin with bay id.
The foreign key bay ID is referenced here Aswell,
This means Bay to bin has a one to many relationship, therefore one bay can have many bins
CREATE TABLE Bins(
Bay_ID INETGER
Bin_ID INTEGER
Bin_size VARCHAR (10)
Bin_max_loaded_weight INTEGER
PRIMARYKEY(Bay_ID, Bin_ID)
FOREIGNKEY Bay_ID REFRENCES bay(Bay_ID)

The forklift table

Since each forklift is assigned to a bay, this is a one to one relationship. We should refrence the foreign key Bay_ID to link them.

```
CREATE TABLE forklift (
Equipment_number INTEGER PRIMARY KEY
Max_Carry_weight INTEGER
        Fuel_type VARCHAR(10)
        Bay_ID INTEGER
        FOREIGN KEY Bay_ID REFRENCES Bay(Bay_ID)
        )
```

For items:
I thought we needed a link table, but since each item is unique, i think we do not. I could be wrong. Since each item is unique, i don't think we need a composite key including bin_ID.

```
CREATE TABLE item(
Item_ID PRIMARY KEY INTEGER,
Date_obtained DATE,
Weight INTEGER
Bin_ID INTEGER
Date_Stored DATE
FOREIGN KEY Bin_ID refrences bin(Bin_ID)
)
```