

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.

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.

### Answer:

#### 1. Bay (Entity)

Attributes:

- Bay\_ID (Primary key) – 01234
- Num\_Of\_Bins – 3
- Location – Ground floor
- Height – 20m

#### 2. Bin (Entity)

Attributes:

- Bin\_ID (Primary key) – 1234
- Bay\_ID (Foreign Key) - 01234
- Bin\_Num\_in\_Bay - 2
- Size – 5m
- Maximum\_Loaded\_Weight – 50kg

#### 3. Fork lift (Entity)

Attributes:

- Equipment\_Number (Primary key) – 12345
- Bay\_ID (Foreign Key) – 01234
- Max\_Carrying\_Weight – 70kg
- Fuel\_Type - Electric

#### 4. Item (Entity)

Attributes:

- Item\_Number (primary key) – 34839

- Receiving\_Date – 01/12/2023
- Item\_Weight – 10kg

5. Item stored (event entity):

Attributes:

- Storage\_ID (Primary Key) – 36273
- Bin\_ID (Foreign Key) – 1234
- Item\_Number (Foreign Key) - 34839
- Storage\_Date – 04/12/2023