Hours:

Database planning and documentation: 13:30 – 14:34

Create schema 14:50 – 15:45

Data visualization: 16:00-17:03

Part 1: Planning

The obvious databases that are required are customers, employees, products and purchases.

customers:

|  |  |  |  |
| --- | --- | --- | --- |
| customer\_id | first\_name | last\_name | email |

employees:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| employee\_id | first\_name | last\_name | start\_date | position\_held |

products:

|  |  |  |  |
| --- | --- | --- | --- |
| product\_id | product\_title | amount\_in\_stock | price |

purchases:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| purchase\_id | customer\_id | employee\_id | product\_id | purchased\_online | purchase\_date | amount\_paid |

For the *products* table, there can be many more fields such as “author”, “publisher”, “ISBN”, “genre”, etc. It would be entirely up to the bookstore owner to decide what additional fields they want. One would have to ask them before adding any.

For the *purchases* table, the foreign keys are customer\_id, employee\_id and product\_id coming from the *customers*, *employees* and *products* tables, respectively. The purchased\_online field is a simple boolean that is *true* when the online store was used for the purchase and *false* if the item was purchased at the physical store. This approach makes it possible to keep track of the purchases made at the store or the online shop with a single query and with fewer tables.

All fields are NOT NULL except for the “email” field in *customers* as not all customers have an email address (usually seniors). The *employee\_id* in *purchases* can presumably be null if the customer bought the item online.

All keys are BIGINT because the store may expand and have many customers, employees, products and purchases.

First names, last names, product titles and emails can have 255 characters as this covers all cases.

The *product\_title field* in *products* must be unique so that there are no duplicates of the same product.