Database Design Document

# Introduction

Creation of a database from Customer and Product Sample Data, alongside the design of the respective ERD and DDL.

# Assumption and Constraints

I would most of the entities in the database will be assumption.

I added multiple tables into it just to build the other tables in the invoice.

I assumed we need tabled for shipping which include shipping terms and shipping method and a constraint to invoice\_line table

I assumed we need improve table to add Quantity on hand , product\_discount, product\_price, product\_code and I added a constraint product\_code as primary key

Assumed we need invoice line and constraint invoice\_number as FOREIGN KEY

FOREIGN KEY product\_code

And table invoice constraint invoice\_number as primery key

Customer id FOREIGN KEY

shipping\_code FOREIGN KEY

# Identified Issues

The main issue in this assignment that we didn’t have the customer we are budling to him so I can understand about the compony and give a main idea how to build the database for the compony.

It was unclear which information needed to be included into the normalized tables, so assumptions were made through the ThinkCube Invoice file and it was unclear on the kind of types need to be used for example invoice num i assumed is going to be numeric since it’s all for numbers as we can use varchar or char in case first number is zero .

# Personnel

Identify who is working on the project, responsibilities, etc. Example jobs below. It is possible to be more than one of these.

* Analyst: Zahi Masarwa
* Architect: Zahi Masarwa
* Quality Assurance: Zahi Masarwa
* Documentation Specialist: Zahi Masarwa

# Entities

Database Name: Assignment2 Revision: 2

Date: 04/07/2021

Author: Zahi Masarwa

|  |  |  |
| --- | --- | --- |
| Entity Name | Entity Type | Relates to |
| Customer | Table |  |
| Address | Table | Customer, Province |
| Province | Table |  |
| Shipment | Table |  |
| Product | Table |  |
| Invoice | Table | Shipment, Customer |
| Invoice\_Line | Table | Product, Invoice |
| Employee | Table | Invoice |
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# Entity Details

## Fields form – <Customer >

Database Name: Assignment2 Revision: 2

Entity Name: Customer Date: 04/07/2021

Author: Zahi Masarwa

|  |  |  |  |
| --- | --- | --- | --- |
| Field Name | Data type | Field Properties | Relates to |
| Customer\_id | BIGINT | PRIMARY KEY |  |
| First\_name | VARCHAR(30) | NOT NULL |  |
| Last\_name | VARCHAR(30) | NOT NULL |  |
| Phone\_number | VARCHAR(15) | NOT NULL |  |
| Email | VARCHAR(150) | NOT NULL |  |
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## Fields form – <Address >

Database Name: Assignment2 Revision: 2

Entity Name: Address Date: 04/07/2021

Author: Zahi Masarwa

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| --- | --- | --- | --- |
| Field Name | Data type | Field Properties | Relates to |
| address\_key | BIGINT | PRIMARY KEY |  |
| Customer\_id | BIGINT | FOREIGN KEY | Customer |
| Street\_address | VARCHAR(100) |  |  |
| P\_o\_box | VARCHAR(10) |  |  |
| Apartment\_number | VARCHAR(5) |  |  |
| Postal\_code | CHAR(7) | NOT NULL |  |
| City | VARCHAR(50) | NOT NULL |  |
| Province | CHAR(2) | FOREIGN KEY | Province |
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## Fields form – <Province >

Database Name: Assignment2 Revision: 2

Entity Name: Province Date: 04/07/2021

Author: Zahi Masarwa

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| --- | --- | --- | --- |
| Field Name | Data type | Field Properties | Relates to |
| Province\_code | CHAR(2) | PRIMARY KEY |  |
| Province\_name | VARCHAR(20) | NOT NULL |  |
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## Fields form – <Shipment >

Database Name: Assignment2 Revision: 2

Entity Name: Shipment Date: 04/07/2021

Author: Zahi Masarwa

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| --- | --- | --- | --- |
| Field Name | Data type | Field Properties | Relates to |
| Shipping\_code | CHAR(3) | PRIMARY KEY |  |
| Shipping\_method | VARCHAR(10) | NOT NULL |  |
| Shipping\_terms | INTEGER | NOT NULL |  |
| Delivery\_date | DATE | NOT NULL |  |
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## Fields form – <Invoice>

Database Name: Assignment2 Revision: 2

Entity Name: Invoice Date: 04/07/2021

Author: Zahi Masarwa

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| --- | --- | --- | --- |
| Field Name | Data type | Field Properties | Relates to |
| Invoice\_number | BIGINT | PRIMARY KEY |  |
| Customer\_id | BIGINT | FOREIGN KEY | Customer |
| Date\_of\_purchase | DATE | NOT NULL |  |
| Shipping\_code | CHAR(3) | FOREIGN KEY | Shipment |
| Due\_date | DATE | NOT NULL |  |
| Payment\_terms | INTEGER | NOT NULL |  |
| Employee\_id | BIGINT | FOREIGN KEY | Employee |
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## Fields form – <Invoice\_Line >

Database Name: Assignment2 Revision: 2

Entity Name: Invoice\_Line Date: 04/07/2021

Author: Zahi Masarwa

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| --- | --- | --- | --- |
| Field Name | Data type | Field Properties | Relates to |
| product\_Item\_num | CHAR(5) | FOREIGN KEY | Product |
| Invoice\_number | BIGINT | FOREIGN KEY | Invoice |
| Line\_price | NUMERIC(15,2) | NOT NULL |  |
| Quantity\_purchased | INTEGER | NOT NULL |  |
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Notes: Associative entity; product\_code and invoice\_number are a composite key.

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## Fields form – <Product >

Database Name: Assignment2 Revision: 2

Entity Name: Product Date: 04/07/2021

Author: Zahi Masarwa

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| Field Name | Data type | Field Properties | Relates to |
| product\_item\_num | CHAR(5) | PRIMARY KEY |  |
| product\_description | VARCHAR(30) | NOT NULL |  |
| Product\_price | NUMERIC(15,2) | NOT NULL |  |
| Product\_qoh | INTEGER | NOT NULL |  |
| Product\_discount | DECIMAL(5,2) | NOT NULL |  |
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## Fields form – <Employee >

Database Name: Assignment2 Revision: 2

Entity Name: Employee Date: 04/07/2021

Author: Zahi Masarwa

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| --- | --- | --- | --- |
| Field Name | Data type | Field Properties | Relates to |
| Employee\_id | BIGINT | PRIMARY KEY | Invoice |
| First\_name | VARCHAR(30) | NOT NULL |  |
| Last\_price | VARCHAR(30) | NOT NULL |  |
| Job\_position | VARCHAR(15) |  |  |
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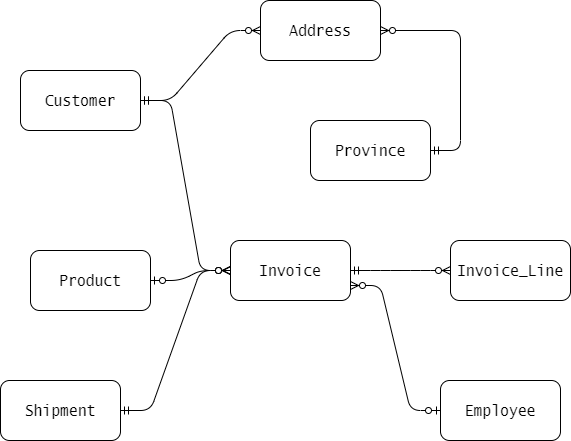
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# Basic ERD



# Physical ERD

