**CPCM/FSDM – Database Design & SQL  
Practical Activities 1\_2\_3\_4 – 2023S  
Student ID:** 901142 **Student Name:** Roshan Shrestha

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**Activity #1**

**List of entities:**

* **CUSTOMER\_142**
* **SHOP\_STAFF\_142**
* **ORDER\_DETAIL\_142**
* **CUSTOMER\_ORDER\_142**
* **ITEM\_142**
* **ITEM\_PRICE\_142**
* **ITEM\_CRUST\_142**
* **ITEM\_SIZE\_142**
* **ITEM\_TOPPING\_142**

**Activity #2**

**Optional and mandatory attributes:**

1. **CUSTOMER\_142**

* Customer contact (Mandatory)
* Full name (Mandatory)
* Email (Optional)
* Address state (Optional)
* Address city (Optional)
* Address zip code (Mandatory)
* Address street (Mandatory)
* Recent order date (Optional)

1. **SHOP\_STAFF\_142**

* Staff code (Mandatory)
* Contact phone (Mandatory)
* Contact email (Optional)
* Full name (Mandatory)
* Role (Mandatory)
* Joined date (Mandatory)

1. **ORDER\_DETAIL\_142**

* Order code (Mandatory)
* Total price (Mandatory)
* Total tax (Mandatory)
* Total discount (Mandatory)
* Order placed date (Mandatory)
* Staff code (Mandatory)

1. **ITEM\_142**

* Item code (Mandatory)
* Item name (Mandatory)
* Item description (Mandatory)

1. **CUSTOMER\_ORDER\_142**

* Item code (Mandatory)
* Order code (Mandatory)

1. **ITEM\_CRUST\_142**

* Crust code (Mandatory)
* Crust name (Mandatory)
* Crust price (Mandatory)

1. **ITEM\_SIZE\_142**

* Size code (Mandatory)
* Size name size price (Mandatory)

1. **ITEM\_TOPPING\_142**

* Topping code (Mandatory)
* Topping price (Mandatory)
* Topping detail (Mandatory)

1. **ITEM\_PRICE\_142**

* Item price code (Mandatory)
* Item total price (Mandatory)
* Size code (Mandatory)
* Crust code (Mandatory)
* Topping code (Mandatory)
* Item code (Mandatory)

**Activity #3**

**Relationship matrix table:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **CUSTOMER\_142** | **CUSTOMER\_ORDER\_142** | **ITEM\_142** | **ITEM\_CRUST\_142** | **ITEM\_PRICE\_142** | **ITEM\_SIZE\_142** | **ITEM\_TOPPING\_142** | **ORDER\_DETAIL\_142** | **SHOP\_STAFF\_142** |
| **CUSTOMER\_142** |  |  |  |  |  |  |  | 1 : N |  |
| **CUSTOMER\_ORDER\_142** |  |  | N : 1 |  |  |  |  | N : 1 |  |
| **ITEM\_142** |  | 1 : N |  |  | 1 : N |  |  |  |  |
| **ITEM\_CRUST\_142** |  |  |  |  | 1 : N |  |  |  |  |
| **ITEM\_PRICE\_142** |  |  | N : 1 | N : 1 |  | N : 1 | N : 1 |  |  |
| **ITEM\_SIZE\_142** |  |  |  |  | 1 : N |  |  |  |  |
| **ITEM\_TOPPING\_142** |  |  |  |  | 1 : N |  |  |  |  |
| **ORDER\_DETAIL\_142** | N : 1 | N : 1 |  |  |  |  |  |  | N : 1 |
| **SHOP\_STAFF\_142** |  |  |  |  |  |  |  | 1 : N |  |

**Explanation:**

* Customercan place many order.
* Many orders can have same item.
* Many orders can have same order detail.
* Item can be included in many customer order.
* Item crust can have many price.
* Item can have many crusts.
* Many item can have same price.
* Many item crust can have same price.
* Many item size can have same price.
* Many item topping can have same price.
* Item size can have many price.
* Item topping can have many price.
* Many order detail can have same customer.
* Many order detail can have same customer order.
* Many order detail can be handled by same staff.

**Activity #4**

A picture containing text, screenshot, font, parallel

Description automatically generated**Entity Relationship Diagram:**

Figure : ER diagram