**PROJECT: FOOD IS LIFE**

**Restaurants**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Restaurant\_ID** | **Restaurant\_Name** | **Branch\_ID** | **Address** | **City** | **State** | **Phone** | **Email** | **Admin\_ID** | **Admin Username** | **Admin**  **Password** | **Admin**  **Phone** | **Admin Email** | **Item\_ID** | **Item\_Name** | **Item\_Description** |
| 1 | KFC | 1, 2 | Gulshan, saddar | Karachi,  Lahore | Sindh,  Punjab | 0314984545,  0234325545 | Branch1@com,  Branch2@com | 2, 1 | Faizan,  Yousaf | - | - | - | B1(1 , 2), B2(1, 2) | B1(Pizza, Burger) ,  B2( shourma,  Rolls) | - |
| 2 | OPTP | 1, 2 | Bahria Town,  Shahrah | Karachi,  Quetta | Sindh,  Balochistan | 0453446533,  0343523642 | Optp1@com,  Optp2@com | 3, 4 | Aliehtisham,  munir | - | - | - | B1(1, 2),  B2(1, 2) | B1(Seekh,  Kabab),  B2(Biryani,  Pulao) | - |
| 3 | McDonald’s | 1, 2 | Gulshan,  mardaan | Karachi,  Quetta | Sindh,  Balochistan | 0453453533,  0343322342 | Mc1@com,  Mc2@com | 5, 6 | Ashar ,  haider | - | - | - | B1(1, 2),  B2(1, 2) | B1(Mayo roll,  Tikka),  B2( Coffe,  Chai) | - |

**Leftovers**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Quantity** | **Branch\_ID** | **Restaurant\_ID** | **Description** | **Image** | **Item\_ID** | **Best Before** |
| 10, 4 | 1 | 1 | - | Png | 1, 2 | - |
| 3, 5 | 2 | 1 | - | Png | 2, 1 | - |
| 2, 1 | 1 | 2 | - | png | 1, 2 | - |

**NGOs**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NGO\_ID** | Name | Address | City | State | Phone | Email | **Admin\_ID** | **Admin username** | **Admin Password** | **Phone** | **Email** | **Rider\_ID** | **Rider**  **Name** | **Rider**  **Phone** | **Rider**  **Email** | **Rider**  **Score** | **Rider**  **CNIC** | **Order**  **ID** | **Restaurant**  **ID** | **Branch**  **ID** | **Order**  **Items ID** | **Order**  **Time** | **Order**  **Status** | **Pickup**  **Time** |
| 1 | - | Gulshan | Karachi | Sindh | - | - | 1 | Faizan | - | - | - | 1,  2 | Akram,  Zafar | - | - | 10,  8 | - | 1, Null | 1,  Null | 2,  Null | R1(1,2),  Null | 11:00 pm,  Null | Waiting,  Null | 12:00,  Null |
| 2 | - | Saddar | Karachi | Sindh | - | - | 2 | Yousaf | - | - | - | 1 | ali | - | - | 15 | - | 2 | 2 | 1 | 2 | 8:00 pm | Confirmed | 11:00 pm |
| 3 | - | Bahria Town | Karachi | Sindh | - | - | 3 | Haider | - | - | - | 1,  2 | Hamid,  ahmad | - | - | 20, 12 | - | 3,  4 | 3,  1 | 1,  1 | R1(2),  R2(1) | 7:00 pm,  6:00 pm | 9:00 pm | 9:00 pm,  8:00 pm |

**Primary Keys:**

* Restaurants ( Restaurant\_ID, Branch\_ID, Admin\_ID, Item\_ID )
* Leftovers ( Restaurant\_ID, Branch\_ID, Item\_ID )
* NGOs ( NGO\_ID, Admin\_ID, Rider\_ID, Order\_ID, Order\_ItemsID )

**Functional Dependencies:**

**Restaurants**

* Restaurant\_ID **->** Restaurant\_Name
* (Restaurant\_ID , Branch\_ID) **->** ( Address, City, State, Phone, Email, Admin\_ID, Admin\_Username, Admin\_Password, Admin\_Phone, Admin\_Email )
* Admin\_ID **->** ( Admin\_Username, Admin\_Password, Admin\_Phone, Admin\_Email )
* (Restaurant\_ID , Branch\_ID, Item\_ID) **->** ( Item\_Name, Item\_Description )

**NGOs**

* NGO\_ID **->** ( NGO\_Name, Address, City, State, Phone, Email, Admin\_ID, Admin\_Username, Admin\_Password, Admin\_Phone, Admin\_Email )
* Admin\_ID **->** ( Admin\_Username, Admin\_Password, Admin\_Phone, Admin\_Email )
* Rider\_ID **->** ( Rider\_Name, Rider\_Phone, Rider\_Email, Rider\_Score, Rider\_CNIC, Order\_ID, Restaurant\_ID, Branch\_ID, Order\_Time, Order\_Status, Pickup\_Time )
* Order\_ID **->** ( Restaurant\_ID, Branch\_ID, Order\_Time, Order\_Status, Pickup\_Time )

**Leftovers**

It has no FDs’.

**Applying Normalization**

**1NF:**

**Restaurants**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Restaurant\_ID** | **Restaurant\_Name** | **Branch\_ID** | **Address** | **City** | **State** | **Phone** | **Email** | **Admin\_ID** | **Admin Username** | **Admin**  **Password** | **Admin**  **Phone** | **Admin Email** | **Item\_ID** | **Item\_Name** | **Item\_Description** |
| 1 | KFC | 1 | Gulshan | Karachi | Sindh | 0314984545 | Branch1@com | 2 | Faizan | - | - | - | 1 | Pizza | - |
| 1 | KFC | 1 | Gulshan | Karachi | Sindh | 0314984545 | Branch1@com | 2 | Faizan | - | - | - | 2 | Burger | - |
| 1 | KFC | 2 | saddar | Lahore | Punjab | 0234325545 | Branch2@com | 1 | yousaf | - | - | - | 1 | Shourma | - |
| 1 | KFC | 2 | saddar | Lahore | Punjab | 0234325545 | Branch2@com | 1 | yousaf | - | - | - | 2 | Rolls | - |
| 2 | OPTP | 1 | Bahria | Karachi | Sindh | 0453446533 | Optp1@com | 3 | Aliehtisham | - | - | - | 1 | Seekh | - |
| 2 | OPTP | 1 | Bahria | Karachi | Sindh | 0453446533 | Optp1@com | 3 | Aliehtisham | - | - | - | 2 | Kabab | - |
| 2 | OPTP | 2 | Shahrah | Quetta | Balochistan | 0343523642 | Optp2@com | 4 | munir | - | - | - | 1 | Biryani | - |
| 2 | OPTP | 2 | Shahrah | Quetta | Balochistan | 0343523642 | Optp2@com | 4 | munir | - | - | - | 2 | Pulao | - |
| 3 | McDonald’s | 1 | Gulshan | Karachi | Sindh | 0453453533 | Mc1@com | 5 | Ashar | - | - | - | 1 | Mayo roll | - |
| 3 | McDonald’s | 1 | Gulshan | Karachi | Sindh | 0453453533 | Mc1@com | 5 | Ashar | - | - | - | 2 | Tikka | - |
| 3 | McDonald’s | 2 | Mardaan | Quetta | Balochistan | 0343322342 | Mc2@com | 6 | haider | - | - | - | 1 | Coffe | - |
| 3 | McDonald’s | 2 | Mardaan | Quetta | Balochistan | 0343322342 | Mc2@com | 6 | haider | - | - | - | 2 | Pizza | - |

**Leftovers**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Quantity** | **Branch\_ID** | **Restaurant\_ID** | **Description** | **Image** | **Item\_ID** | **Best Before** |
| 10 | 1 | 1 | - | Png | 1 | - |
| 4 | 1 | 1 | - | Png | 2 | - |
| 3 | 2 | 1 | - | Png | 2 | - |
| 5 | 2 | 1 | - | png | 1 | - |
| 2 | 1 | 2 | - | png | 1 | - |
| 1 | 1 | 2 | - | png | 2 | - |

**NGOs**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NGO\_ID** | Name | Address | City | State | Phone | Email | **Admin\_ID** | **Admin username** | **Admin Password** | **Phone** | **Email** | **Rider\_ID** | **Rider**  **Name** | **Rider**  **Phone** | **Rider**  **Email** | **Rider**  **Score** | **Rider**  **CNIC** | **Order**  **ID** | **Restaurant**  **ID** | **Branch**  **ID** | **Order**  **Items ID** | **Order**  **Time** | **Order**  **Status** | **Pickup**  **Time** |
| 1 | - | Gulshan | Karachi | Sindh | - | - | 1 | Faizan | - | - | - | 1 | Akram | - | - | 10 | - | 1 | 1 | 2 | 1 | 11:00 pm | Waiting | 12:00 |
| 1 | - | Gulshan | Karachi | Sindh | - | - | 1 | Faizan | - | - | - | 1 | Akram | - | - | 10 | - | 1 | 1 | 2 | 2 | 11:00 pm | Waiting | 12:00 |
| 1 | - | Gulshan | Karachi | Sindh | - | - | 1 | Faizan | - | - | - | 2 | Zafar | - | - | 8 | - | Null | Null | Null | Null | Null | Null | Null |
| 2 | - | Saddar | Karachi | Sindh | - | - | 2 | Yousaf | - | - | - | 1 | Ali | - | - | 15 | - | 2 | 2 | 1 | 2 | 8:00 pm | Confirmed | 11:00 pm |
| 3 | - | Bahria Town | Karachi | Sindh | - | - | 3 | Haider | - | - | - | 1 | Hamid | - | - | 20 | - | 3 | 3 | 1 | 2 | 7:00 pm | Waiting | 9:00 pm |
| 3 | - | Bahria Town | Karachi | Sindh | - | - | 3 | Haider | - | - | - | 2 | Ahmad | - | - | 12 | - | 4 | 1 | 1 | 1 | 6:00 pm | Pending | 8:00 pm |

**2NF:**

We have already defined the Primary keys of the Relations, hence we can easily identify the partial dependencies.

**Restaurants**

|  |  |
| --- | --- |
| **Restaurant\_ID** | **Restaurant\_Name** |

**Branch**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Restaurant\_ID** | **Branch\_ID** | **Address** | **City** | **State** | **Phone** | **Email** | **Admin\_ID** |

**Branch\_Admin**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Admin\_ID** | **Admin\_Username** | **Admin\_Password** | **Admin\_Phone** | **Admin\_Email** |

**Food\_Items**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item\_ID** | **Item\_Name** | **Item\_Description** | **Restaurant\_ID** | **Branch\_ID** |

**Leftovers**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Quantity** | **Branch\_ID** | **Restaurant\_ID** | **Description** | **Image** | **Item\_ID** | **Best Before** |

**NGOs**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **NGO\_ID** | **Name** | **Address** | **City** | **State** | **Phone** | **Email** | **Admin\_ID** |

**NGO\_Admin**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Admin\_ID** | **Admin\_Username** | **Admin\_Password** | **Phone** | **Email** |

**Rider**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Rider\_ID** | **Rider\_Name** | **Rider\_Phone** | **Rider\_Email** | **Rider\_Score** | **Rider\_CNIC** | **Order\_ID** | **NGO\_ID** |

**Order**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Order\_ID** | **Restaurant\_ID** | **Branch\_ID** | **Order\_Time** | **Order\_Status** | **Pickup\_Time** |

**Order\_Items**

|  |  |
| --- | --- |
| **Order\_ID** | **Order\_ItemsID** |

**3NF:**

Already in 3NF.

**BCNF:**

Already in BCNF.

**ENTITY RELATIONSHIP DIAGRAM (ERD)**

