**Normalization**

***Upto 3NF***

1. **Send/Receive**

**1NF:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| a\_id | a\_password | a\_address | a\_email | a\_mobile | a\_status | a\_type | |
| s\_id | s\_password | s\_address | s\_email | s\_mobile | u\_status | s\_type | |
| msg\_id | msg\_text | msg\_status | msg\_reply | msg\_text | msg\_date | |

a\_id + u\_type , s\_id + u\_type , msg\_id **=>**  a\_password , a\_address , a\_email , a\_mobile, u\_status , u\_type , s\_password , s\_address , s\_email , s\_mobile, u\_status , u\_type , msg\_text, msg\_status, msg\_reply , msg\_text

Multivalued attribute for admin:

Seller\_name

|  |  |  |  |
| --- | --- | --- | --- |
| a\_id | s\_type | first\_name | last\_name |

Multivalued attribute for seller:

Admin\_name

|  |  |  |  |
| --- | --- | --- | --- |
| a\_id | a\_type | first\_name | last\_name |

Multivalued attribute for g\_user:

G\_user\_name

|  |  |  |  |
| --- | --- | --- | --- |
| g\_u\_id | g\_u\_type | first\_name | last\_name |

**2NF:**

a\_id + a\_type => a\_password , a\_address , a\_email , a\_mobile, u\_status , a\_type

s\_id + s\_type => s\_password , s\_address , s\_email , s\_mobile, u\_status , s\_type

g\_u\_id + g\_u\_type => g\_u\_password , g\_u\_address , g\_u\_email , g\_u\_mobile, g\_u\_status , g\_u\_type

msg\_id => msg\_text, msg\_status, msg\_reply , msg\_date

**Tables:**

Admin:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| a\_id | a\_password | a\_address | a\_email | a\_mobile | u\_status | u\_type |

Seller:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| s\_id | s\_password | s\_address | s\_email | s\_mobile | u\_status | u\_type |

G\_user:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| g\_u\_id | g\_u\_password | g\_u\_address | g\_u\_email | g\_u\_mobile | g\_u\_status | g\_u\_type |

Admin\_name:

|  |  |  |  |
| --- | --- | --- | --- |
| a\_id | a\_type | first\_name | last\_name |

Seller\_name:

|  |  |  |  |
| --- | --- | --- | --- |
| s\_id | s\_type | first\_name | last\_name |

G\_user\_name:

|  |  |  |  |
| --- | --- | --- | --- |
| g\_u\_id | g\_u\_type | first\_name | last\_name |

Msg:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| msg\_id | msg\_text | msg\_status | msg\_reply | msg\_text | msg\_date |

Msg-seller-admin:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| a\_id | u\_type | s\_id | u\_type | msg\_id |

Msg-g\_user-admin:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| a\_id | u\_type | g\_u\_id | u\_type | msg\_id |

1. **Manupulate:**

**1NF:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| a\_id | a\_password | a\_address | a\_email | a\_mobile | a\_status | a\_type |
| promo\_id | promo\_desc | Promo\_expiry | promo\_percentage | promo\_status | promo\_limit | promot\_use\_count |
| user\_use\_date | user\_use\_count |

**2NF:**

promo\_id => promo\_desc , Promo\_expiry, promo\_percentage, promo\_status, promo\_limit , promot\_use\_count

**Tables:**

Promo:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| promo\_id | promo\_desc | Promo\_expiry | promo\_percentage, | promo\_status |
| promo\_limit | promot\_use\_count | a\_id |

1. **Promo\_used:**

**1NF:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| g\_u\_id | g\_u \_password | g\_u \_address | g\_u \_email | g\_u \_mobile | g\_u \_status | g\_u \_type |
| promo\_id | promo\_desc | Promo\_expiry | promo\_percentage | promo\_status | promo\_limit | promot\_use\_count |
| user\_use\_date | user\_use\_count |

**2NF:**

**Tables:**

Promo\_use:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| promo\_id | user\_id | user\_type | user\_use\_date | use\_date | user\_use\_count |

1. **Makes\_cart/wishlist:**

**1NF:**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| g\_u\_id | g\_u \_password | | g\_u \_address | | g\_u \_email | g\_u \_mobile | g\_u \_status | g\_u \_type | cart\_id |
| wishlist\_id | cart\_status | wishlist\_status | |

**Tables:**

Wishlist:

|  |  |  |  |
| --- | --- | --- | --- |
| wishlist\_id | wishlist\_status | user\_id | user\_type |

Cart:

|  |  |  |  |
| --- | --- | --- | --- |
| cart\_id | cart\_status | user\_id | user\_type |

1. **Product\_includes:**

**1NF:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| g\_u\_id | g\_u \_password | g\_u \_address | g\_u \_email | g\_u \_mobile | g\_u \_status | g\_u \_type | cart\_id |
| wishlist\_id |

**Tables:**

P\_include\_wishlist:

|  |  |  |
| --- | --- | --- |
| wishlist\_id | product\_id | product\_qntity |

P\_include\_cart:

|  |  |  |
| --- | --- | --- |
| cart\_id | product\_id | product\_qntity |

1. **Cart\_to\_order:**

**1NF:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| cart\_id | cart\_status | order\_id | order\_date | payment\_method | payment\_status |

**Tables:**

Cart: ***[Updated]***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| cart\_id | cart\_status | user\_id | user\_type | order\_id |

Order:

|  |  |  |  |
| --- | --- | --- | --- |
| order\_id | order\_date | payment\_method | payment\_status |

1. **Return\_order:**

**1NF:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| order\_id | order\_date | payment\_method | payment\_status | return\_id | return\_desc | return\_date |

**Tables:**

Order: ***[Updated]***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| order\_id | order\_date | payment\_method | payment\_status | return\_id |

Return:

|  |  |  |
| --- | --- | --- |
| return\_id | return\_desc | return\_date |