

# Informatics College Pokhara



## Advanced Database Systems Development

CC6001NP

Coursework 1

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## Table of Contents

1.	Entity Relationship Diagram .....	1
1.1	Initial Entity Relationship Diagram .....	1
1.2	Final Entity Relationship Diagram.....	2
2.	Assumptions.....	3
3.	Normalization .....	5
3.1	Figure 1. Example of Dishes.....	5
3.2	Figure 2. Example of Order Register .....	8
4.	Data Dictionary.....	15
5.	Generation of Database .....	24
5.1	Table Generation .....	24
5.2	Database tables population .....	32
5.3	Contents of all database tables.....	36
6.	Implementation of Web-based Database Application.....	41
6.1	Home webform .....	41
6.2	Dish Details webform.....	41
6.3	Customer Details webform.....	42
6.4	Restaurant Details webform.....	44
6.5	Loyalty Points webform.....	45
6.6	Delivery Address Details webform .....	46
6.7	Customer-Order Details webform .....	47
6.8	Dish Search webform .....	49
6.9	Order Activity webform.....	50
7.	Testing .....	52
7.1	Oracle database connection .....	52
7.2	IIS Express .....	53
7.3	Dish Details webform .....	54
7.4	Restaurant Details webform.....	59
7.5	Customer Details webform.....	63
7.6	Loyalty Points Details webform.....	69
7.7	Delivery Address Details webform .....	72
7.8	Customer-Order Details webform .....	76
7.9	Dish Search webform .....	78
7.10	Order Activity webform .....	81

8.	User Manual .....	83
8.1	Home webform .....	83
8.2	Dish Details webform.....	84
8.3	Restaurant Details webform.....	84
8.4	Customer Details webform.....	85
8.5	Loyalty Points Details webform.....	85
8.6	Delivery Address Details webform .....	86
8.7	Customer-Order Details webform .....	86
8.8	Dish Search webform .....	87
8.9	Order Activity webform.....	87
9.	Further Discussion .....	88
10.	Bibliography .....	89

## Table of Figures

Figure 1: Initial Entity Relationship Diagram .....	1
Figure 2: Final Entity Relationship Diagram.....	2
Figure 3: Creating user: cwkushal.....	24
Figure 4: Granting all privileges to user: cwkushal.....	24
Figure 5: Connecting to user: cwkushal .....	24
Figure 6: Creation of dish table .....	25
Figure 7: Description of dish table.....	25
Figure 8: Creation of restaurant table .....	26
Figure 9: Description of restaurant table .....	26
Figure 10: Creation of customer table.....	27
Figure 11: Description of customer table .....	27
Figure 12: Creation of delivery_address table .....	28
Figure 13: Description of delivery_address table .....	28
Figure 14: Creation of loyalty table .....	29
Figure 15: Description of loyalty table .....	29
Figure 16: Creation of order_details table .....	30
Figure 17: Description of order_details table .....	30
Figure 18: Creation of dish_restaurant table.....	31
Figure 19: Description of dish_restaurant table .....	31
Figure 20: Inserting data in dish table .....	32
Figure 21: Inserting data in restaurant table .....	32
Figure 22: Inserting data in customer table.....	33
Figure 23: Inserting data in delivery_address table .....	33
Figure 24: Inserting data in loyalty table .....	34
Figure 25: Inserting data in order_details table .....	34
Figure 26: Inserting data in dish_restaurant table.....	35
Figure 27: Displaying data of dish table .....	36
Figure 28: Displaying data of restaurant table .....	36
Figure 29: Displaying data of customer table.....	37
Figure 30: Displaying data of delivery_address table.....	38
Figure 31: Displaying data of loyalty table .....	38
Figure 32: Displaying data of order_details table .....	39

Figure 33: Displaying data of dish_restaurant table .....	40
Figure 34: Home webform .....	41
Figure 35: Dish Details webform.....	41
Figure 36: Select query for Dish Details webform .....	42
Figure 37: Update query for Dish Details webform .....	42
Figure 38: Delete query for Dish Details webform.....	42
Figure 39: Customer Details webform.....	42
Figure 40: Select query for Customer Details webform.....	43
Figure 41: Update query for Customer Details webform .....	43
Figure 42: Delete query for Customer Details webform .....	43
Figure 43: Restaurant Details webform.....	44
Figure 44: Select query for Restaurant Details webform.....	44
Figure 45: Update query for Restaurant Details webform .....	44
Figure 46: Delete query for Restaurant Details webform .....	45
Figure 47: Loyalty Points webform.....	45
Figure 48: Select query for Loyalty Points webform.....	45
Figure 49: Update query for Loyalty Points webform .....	46
Figure 50: Delete query for Loyalty Points webform .....	46
Figure 51: Delivery Address Details webform .....	46
Figure 52: Select query for Delivery Address Details webform .....	47
Figure 53: Update query for Delivery Address Details webform .....	47
Figure 54: Delete query for Delivery Address Details webform .....	47
Figure 55: Customer-Order Details webform .....	47
Figure 56: Select query of customer name drop down list .....	48
Figure 57: Select query for grid view.....	48
Figure 58: Query to display delivery point.....	48
Figure 59: Dish Search webform.....	49
Figure 60: Select query for customer name drop down list .....	49
Figure 61: Select query for dish name drop down list .....	49
Figure 62: Select query for grid view.....	50
Figure 63: Order Activity webform.....	50
Figure 64: Select query for customer name drop down list .....	50
Figure 65: Select query for grid view.....	51
Figure 66: BadImageFormatException error .....	52

Figure 67: Oracle Database connection successful .....	53
Figure 68: IIS Express error .....	54
Figure 69: IIS 10.0 Express .....	54
Figure 70: Before inserting data in Dish Details webform .....	55
Figure 71: While inserting data in Dish Details webform.....	55
Figure 72: After inserting data in Dish Details webform .....	56
Figure 73: Before updating data in Dish Details webform .....	57
Figure 74: While updating data in Dish Details webform.....	57
Figure 75: After updating data in Dish Details webform .....	57
Figure 76: Before deleting data in Dish Details webform .....	58
Figure 77: After deleting data in Dish Details webform .....	58
Figure 78: Before inserting data in Restaurant Details webform.....	59
Figure 79: While inserting data in Restaurant Details webform .....	60
Figure 80: After inserting data in Restaurant Details webform.....	60
Figure 81: Before updating data in Restaurant Details webform.....	61
Figure 82: While updating data in Restaurant Details webform .....	61
Figure 83: After updating data in Restaurant Details webform.....	62
Figure 84: Before deleting data in Restaurant Details webform.....	62
Figure 85: After deleting data in Restaurant Details webform.....	63
Figure 86: Before inserting data in Customer Details webform .....	63
Figure 87: While inserting data in Customer Details webform .....	64
Figure 88: After inserting data in Customer Details webform.....	65
Figure 89: Before updating data in Customer Details webform.....	66
Figure 90: While updating data in Customer Details webform .....	66
Figure 91: After updating data in Customer Details webform.....	67
Figure 92: Before deleting data in Customer Details webform.....	68
Figure 93: After deleting data in Customer Details webform.....	68
Figure 94: Before inserting data in Loyalty Points Details webform .....	69
Figure 95: While inserting data in Loyalty Points Details webform.....	69
Figure 96: After inserting data in Loyalty Points Details webform .....	70
Figure 97: Before updating data in Loyalty Points Details webform .....	70
Figure 98: While updating data in Loyalty Points Details webform.....	71
Figure 99: After updating data in Loyalty Points Details webform.....	71
Figure 100: Before deleting data in Loyalty Points Details webform .....	71

Figure 101: After deleting data in Loyalty Points Details webform .....	72
Figure 102: Before inserting data in Delivery Address Details webform .....	72
Figure 103: While inserting data in Delivery Address Details webform .....	73
Figure 104: After inserting data in Delivery Address Details webform .....	73
Figure 105: Before updating data in Delivery Address Details webform .....	74
Figure 106: While updating data in Delivery Address Details webform.....	74
Figure 107: After updating data in Delivery Address Details webform .....	75
Figure 108: Before deleting data in Delivery Address Details webform .....	75
Figure 109: After deleting data in Delivery Address Details webform .....	76
Figure 110: Before selecting customer's name .....	77
Figure 111: While selecting customer's name.....	77
Figure 112: After selecting customer's name .....	78
Figure 113: After clicking on "Get Delivery Point" button .....	78
Figure 114: Before selecting customer and dish name .....	79
Figure 115: While selecting customer name .....	79
Figure 116: While selecting dish name .....	80
Figure 117: After selecting customer and dish name .....	80
Figure 118: Before selecting customer name .....	81
Figure 119: While selecting customer name .....	82
Figure 120: After selecting customer name .....	82
Figure 121: User manual of Home webform .....	83
Figure 122: User manual of Dish Details webform.....	84
Figure 123: User manual of Restaurant Details webform .....	84
Figure 124: User manual of Customer Details webform .....	85
Figure 125: User manual of Loyalty Points Details webform.....	85
Figure 126: User manual of Delivery Address Details webform .....	86
Figure 127: User manual of Customer-Order Details webform .....	86
Figure 128: User manual of Dish Search webform .....	87
Figure 129: User manual of Order Activity webform .....	87

## Table of Tables

Table 1: Figure 1. Example of Dishes .....	5
Table 2: Dish table after UNF .....	5
Table 3: Dish table after 1NF .....	6
Table 4: Restaurant table after 1NF .....	6
Table 5: Dish table after 2NF .....	6
Table 6: Restaurant table after 2NF .....	7
Table 7: Restaurant_Dish table after 2NF.....	7
Table 8: Figure 2. Example of Order Register .....	8
Table 9: Order table after UNF .....	9
Table 10: Order table after 1NF .....	10
Table 11: Dish table after 1NF .....	10
Table 12: Order table after 2NF .....	11
Table 13: Dish table after 2NF .....	11
Table 14: Order_Dish table after 2NF .....	12
Table 15: Order table after 3NF .....	13
Table 16: Dish table after 3NF .....	13
Table 17: Restaurant table after 3NF.....	13
Table 18: Order_Dish table after 3NF .....	14
Table 19: Data dictionary of dish table.....	15
Table 20: Data dictionary of restaurant table .....	16
Table 21: Data dictionary of customer table.....	17
Table 22: Data dictionary of loyalty table .....	18
Table 23: Data dictionary of delivery_address table .....	19
Table 24: Data dictionary of order_details table.....	21
Table 25: Data dictionary of dish_restaurant table.....	22
Table 26: Test case 1 .....	52
Table 27: Test case 2 .....	53
Table 28: Test case 3 .....	54
Table 29: Test case 4 .....	56
Table 30: Test case 5 .....	58
Table 31: Test case 6 .....	59
Table 32: Test case 7 .....	61

Table 33: Test case 8 .....	62
Table 34: Test case 9 .....	63
Table 35: Test case 10 .....	65
Table 36: Test case 11 .....	67
Table 37: Test case 12 .....	69
Table 38: Test case 13 .....	70
Table 39: Test case 14 .....	71
Table 40: Test case 15 .....	72
Table 41: Test case 16 .....	74
Table 42: Test case 17 .....	75
Table 43: Test case 18 .....	76
Table 44: Test case 19 .....	78
Table 45: Test case 20 .....	81

## 1. Entity Relationship Diagram

### 1.1 Initial Entity Relationship Diagram

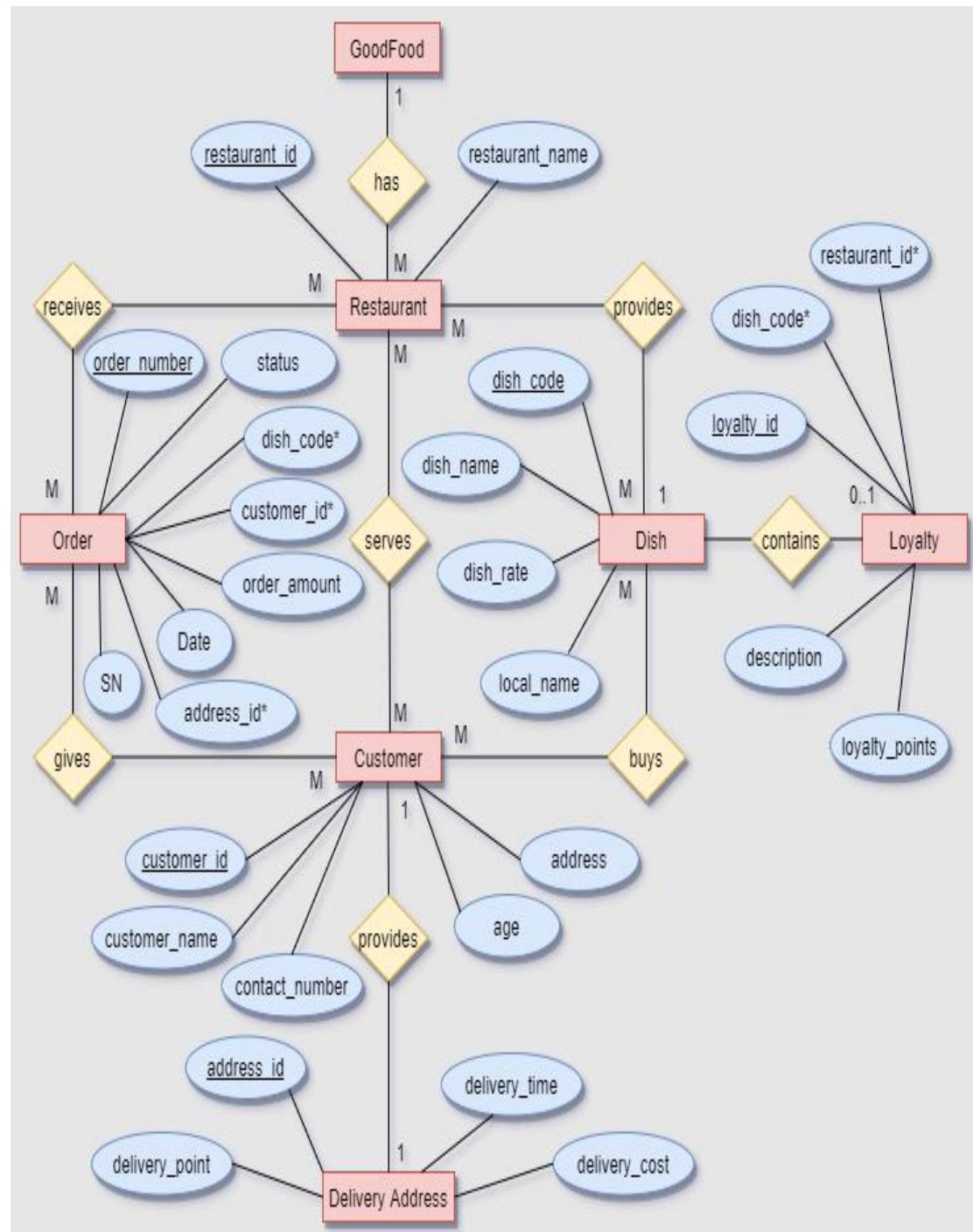


Figure 1: Initial Entity Relationship Diagram

## 1.2 Final Entity Relationship Diagram

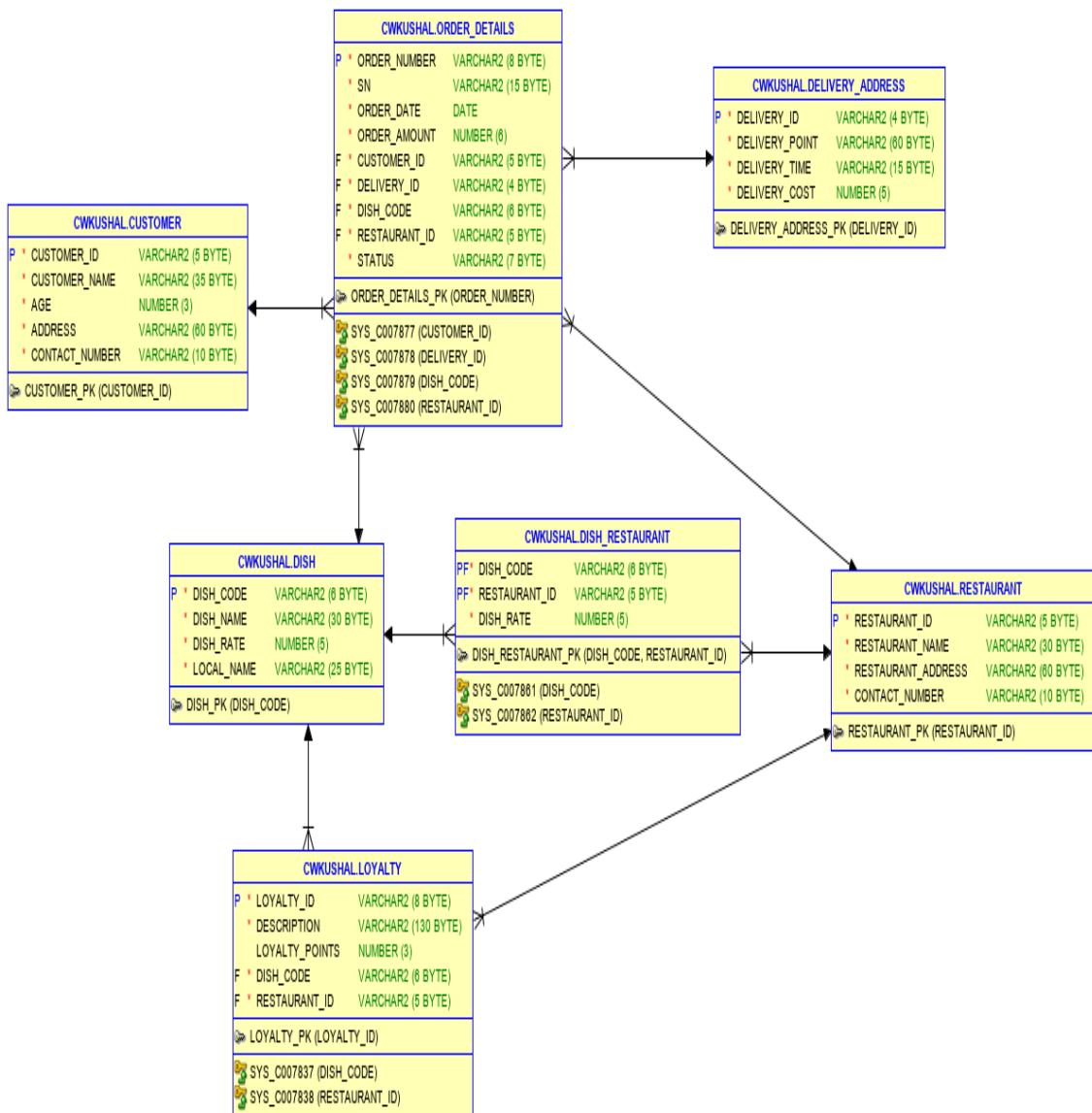


Figure 2: Final Entity Relationship Diagram

In final ERD, one new entity is added which is dish\_restaurant where dish\_code and restaurant\_id is composite primary key. Similarly, customer\_id, delivery\_id, dish\_code and restaurant\_id are foreign keys in order\_details table. Likewise, dish\_code and restaurant\_id are foreign keys in loyalty table.

## 2. Assumptions

- In initial Entity Relationship Diagram (ERD), I have 6 entities / tables which are: Restaurant, Order, Dish, Loyalty, Customer and Delivery Address.
- Similarly, dish\_code, customer\_id and address\_id are foreign keys in Order table, and restaurant\_id and dish\_code are foreign keys in Loyalty table.
- In final ERD, one new table is added which is Dish\_Restaurant.
- In final ERD, customer\_id, delivery\_id, dish\_code and restaurant\_id are foreign keys in ORDER\_DETAILS table, dish\_code and restaurant\_id is composite primary key in DISH\_RESTAURANT table, and dish\_code and restaurant\_id are foreign keys in LOYALTY table.
- For Figure 1 normalization, first restaurant details are removed in 1NF as a repeating group because multiple customer can order dish from the same restaurant in a day. Then, partial dependency is removed from restaurant table in 2NF. Hence a new table named as Restaurant\_Dish is formed where restaurant\_id and dish\_code become a composite primary key. All the tables of figure 1 cannot be broken down anymore, so they are already in 3NF. The tables after 2NF of figure 1 are: dish, restaurant and dish\_restaurant.
- For Figure 2 normalization, first dish details are removed in 1NF as a repeating group because same dish can be ordered multiple times in a day. In dish table, local\_name attribute is added which signifies local name of a particular dish. Dish\_code and local\_name is composite primary key in dish table for 1NF.
- While inserting data in Dish table in 1NF, both order\_number and dish\_code should be inserted because it is composite primary key. However, for order number 09-00360 and 09-09000, there are no dish\_code. Hence, these two rows are deleted.
- Similarly, partial dependency is removed from dish table in 2NF of figure 2 normalization. After 2NF, only dish\_code is the primary key of dish table. A new table is formed after 2NF named as order\_dish where order\_number and dish\_code is composite primary key. In order\_dish

table, restaurant attribute is replaced by restaurant\_id and restaurant\_name.

- While inserting data in dish table after 2NF, one row with 'CHKMO' dish\_code is removed from dish table because of violation of PK constraints which means two row had same dish\_code.
- Finally, transitive dependencies are removed from order\_dish table in 3NF and restaurant table is formed. Hence, the tables after 3NF of figure 2 are: order, dish, restaurant and order\_dish.
- I assume different restaurants have different dish rates and that is why dish\_code and restaurant\_id is composite primary key in dish\_restaurant table. In same restaurant\_id, there can be multiple dish\_codes and it's respective dish rates.
- I assume that restaurants of one city can deliver dishes to the customers of another cities.
- I assume all restaurants will provide loyalty to customers based on their dishes only. For example: Greasy Spoon restaurant provides 10 loyalty points on Chicken Thakali dish. Hence, even if some restaurants have regular customers, they won't provide them any extra loyalty points.

### 3. Normalization

#### 3.1 Figure 1. Example of Dishes

Dish Code	Dish Name	Local Name	Restaurant Name
CHKMO	Chicken Momo	Chicken Momo	Royale Luxury
VEGTM	Vegetable Tempura		Royale Luxury
CHKMO	Chicken Momo	Chicken Momo	Taste Buds
MIXCHT	Mixed Chatamari	Nepali Pizza	Local Foodie

Table 1: Figure 1. Example of Dishes

#### Step 1: UNF

Dish (dish\_code, dish\_name, local\_name, {restaurant\_id, restaurant\_name})

❖ Dish table

Dish Code	Dish Name	Local Name	Restaurant ID	Restaurant Name
CHKMO	Chicken Momo	Chicken Momo	R01	Royale Luxury
VEGTM	Vegetable Tempura		R01	Royale Luxury
CHKMO	Chicken Momo	Chicken Momo	R02	Taste Buds
MIXCHT	Mixed Chatamari	Nepali Pizza	R03	Local Foodie

Table 2: Dish table after UNF

#### Step 2: 1NF

In 1NF, repeating groups will be removed.

Tables after 1NF:

Dish(dish\_code, dish\_name, local\_name)

Restaurant(restaurant\_id, dish\_code, restaurant\_name)

❖ Dish table

<u>Dish Code</u>	<u>Dish Name</u>	<u>Local Name</u>
CHKMO	Chicken Momo	Chicken Momo
VEGTM	Vegetable Tempura	
MIXCHT	Mixed Chatamari	Nepali Pizza

*Table 3: Dish table after 1NF*

❖ Restaurant table

<u>Dish Code</u>	<u>Restaurant Id</u>	<u>Restaurant Name</u>
CHKMO	R01	Royale Luxury
VEGTM	R01	Royale Luxury
CHKMO	R02	Taste Buds
MIXCHT	R03	Local Foodie

*Table 4: Restaurant table after 1NF*

**Step 3: 2NF**

In 2NF, partial dependency will be removed from Restaurant table.

`restaurant_id => restaurant_name`

`restaurant_id, dish_code => restaurant_name`

So, tables after 2NF are:

`Dish(dish_code, dish_name, local_name)`

`Restaurant(restaurant_id, restaurant_name)`

`Restaurant_Dish((restaurant_id, dish_code)*)` [Composite primary key]

❖ Dish table

<u>Dish Code</u>	<u>Dish Name</u>	<u>Local Name</u>
CHKMO	Chicken Momo	Chicken Momo
VEGTM	Vegetable Tempura	
MIXCHT	Mixed Chatamari	Nepali Pizza

*Table 5: Dish table after 2NF*

- ❖ Restaurant table

<u>RestaurantId</u>	<u>Restaurant Name</u>
R01	Royale Luxury
R02	Taste Buds
R03	Local Foodie

*Table 6: Restaurant table after 2NF*

- ❖ Restaurant\_Dish table

<u>Restaurant Id*</u>	<u>Dish Code*</u>
R01	CHKMO
R01	VEGTM
R02	CHKMO
R03	MIXCHT

*Table 7: Restaurant\_Dish table after 2NF*

Since table of figure 1 cannot be broken down further, it is already in 3NF.

(Chapple, 2020)

### 3.2 Figure 2. Example of Order Register

<b>GoodFood Order Register</b>					
<b>SN</b>	<b>Date/Time</b>	<b>Order Number</b>	<b>Order Amount</b>	<b>Delivery Point</b>	<b>Status</b>
2020-09-223334	9 <sup>th</sup> November 2020/14:30	09-00231	2750	Baneshwor	On Time
<i>Dish Code</i>	<i>Dish Name</i>	<i>Order Unit</i>	<i>Dish Rate</i>	<i>Line Total</i>	<i>Restaurent</i>
CHKMO	Chicken Momo	6 Plates	350	2100	Taste Buds
MIXCHT	Mixed Chatamari	2 Plate	325	650	Local Foodie
2020-09-223374	9 <sup>th</sup> November 2020/15:20	09-00345	700	Kalanki	Early
CHKMO	Chicken Momo	2 Plates	350	700	Taste Buds
2020-09-223334	9 <sup>th</sup> November 2020/14:40	09-00360	5000	Baluwatar	On Time
2020-09-223334	9 <sup>th</sup> November 2020/16:50	09-09000	3450	Kalanki	Late

*Table 8: Figure 2. Example of Order Register*

The structure of above table is simplified in UNF step for better understanding the record.

#### Step 1: UNF

Order(SN, date, order\_number, order\_amount, delivery\_point, status,  
{dish\_code, dish\_name, order\_unit, dish\_rate, line\_total, restaurant})

Table after UNF:

❖ Order table

GoodFood Order Register											
SN	Date/Time	Order Number	Order Amount	Delivery Point	Status	Dish Code	Dish Name	Order Unit	Dish Rate	Line Total	Restaurant
2020-09-223334	9 <sup>th</sup> November 2020/14:30	09-00231	2750	Baneshwor	On Time	CHK MO	Chick en Momo	6 Plates	350	2100	Taste Buds
						MIXC HT	Mixed Chata mari	2 Plate	325	650	Local Foodie
2020-09-223374	9 <sup>th</sup> November 2020/15:20	09-00345	700	Kalanki	Early	CHK MO	Chick en Momo	2 Plates	350	700	Taste Buds
2020-09-223334	9 <sup>th</sup> November 2020/14:40	09-00360	5000	Baluwatar	On Time						
2020-09-223334	9 <sup>th</sup> November 2020/16:50	09-09000	3450	Kalanki	Late						

Table 9: Order table after UNF

**Step 2: 1NF:**

Removing repeating group from UNF.

Tables after 1NF:

Order(SN, Date, order\_number, order\_amount, delivery\_point, status)

Dish(dish\_code, order\_number, dish\_name, order\_unit, dish\_rate, line\_total, restaurant, local\_name)

In Dish table, local\_name attribute of dish is added.

❖ Order table

SN	Date/Time	Order Number	Order Amount	Delivery Point	Status
2020-09-223334	9 <sup>th</sup> November 2020/14:30	09-00231	2750	Baneshwor	On Time
2020-09-223374	9 <sup>th</sup> November 2020/15:20	09-00345	700	Kalanki	Early
2020-09-223334	9 <sup>th</sup> November 2020/14:40	09-00360	5000	Baluwatar	On Time
2020-09-223334	9 <sup>th</sup> November 2020/16:50	09-09000	3450	Kalanki	Late

Table 10: Order table after 1NF

❖ Dish table

Dish Code	Order Number	Dish Name	Order Unit	Local Name	Dish Rate	Line Total	Restaurant
CHKMO	09-00231	Chicken Momo	6 Plates	Dumplings	350	2100	Taste Buds
MIXCHT	09-00231	Mixed Chatamari	2 Plate	Nepali Pizza	325	650	Local Foodie
CHKMO	09-00345	Chicken Momo	2 Plates	Dumplings	350	700	Taste Buds

Table 11: Dish table after 1NF

In the above Dish table, both Dish Code and Order Number should be inserted because they are composite primary key. However, for order number 09-00360 and 09-09000, there are no Dish Code. Hence, these two rows are deleted.

### Step 3: 2NF

Removing full functional dependencies from Dish table.

dish\_code, order\_number => order\_unit, line\_total, restaurant

dish\_code => dish\_name, dish\_rate, local\_name

So, tables after 2NF are:

Order(SN, Date, order\_number, order\_amount, delivery\_point, status)

Dish(dish\_code, dish\_name, dish\_rate, local\_name)

Order\_Dish(order\_number, dish\_code, order\_unit, line\_total, restaurant\_id, restaurant\_name)

In Order\_Dish table, restaurant\_id, and restaurant\_name is written in place of restaurant.

❖ Order table

<b>SN</b>	<b>Date/Time</b>	<b>Order Number</b>	<b>Order Amount</b>	<b>Delivery Point</b>	<b>Status</b>
2020-09-223334	9 <sup>th</sup> November 2020/14:30	09-00231	2750	Baneshwor	On Time
2020-09-223374	9 <sup>th</sup> November 2020/15:20	09-00345	700	Kalanki	Early
2020-09-223334	9 <sup>th</sup> November 2020/14:40	09-00360	5000	Baluwatar	On Time
2020-09-223334	9 <sup>th</sup> November 2020/16:50	09-09000	3450	Kalanki	Late

Table 12: Order table after 2NF

❖ Dish table

<b>Dish Code</b>	<b>Dish Name</b>	<b>Dish Rate</b>	<b>Local Name</b>
CHKMO	Chicken Momo	350	Dumplings
MIXCHT	Mixed Chatamari	325	Nepali Pizza

Table 13: Dish table after 2NF

One row with 'CHKMO' dish code is removed from Dish table of 1NF because of violation of PK constraints.

❖ Order\_Dish table

<u>Dish Code</u>	<u>Order Number</u>	Order Unit	Line Total	Restaurant ID	Restaurant Name
CHKMO	09-00231	6 Plates	2100	R01	Taste Buds
MIXCHT	09-00231	2 Plate	650	R02	Local Foodie
CHKMO	09-00345	2 Plates	700	R01	Taste Buds

Table 14: Order\_Dish table after 2NF

**Step 4: 3NF**

Removing transitive dependencies from Order\_Dish table:

dish\_code, order\_number => restaurant\_id, restaurant\_name

restaurant\_id => restaurant\_name

So, tables after 3NF are:

Order(SN, Date, order\_number, order\_amount, delivery\_point, status)

Dish(dish\_code, dish\_name, dish\_rate, local\_name)

Restaurant(restaurant\_id, restaurant\_name)

Order\_Dish(order\_number, dish\_code, restaurant\_id, order\_unit, line\_total)

(geeksforgeeks, 2019)

❖ Order table

<b>SN</b>	<b>Date/Time</b>	<b><u>Order Number</u></b>	<b>Order Amount</b>	<b>Delivery Point</b>	<b>Status</b>
2020-09-223334	9 <sup>th</sup> November 2020/14:30	09-00231	2750	Baneshwor	On Time
2020-09-223374	9 <sup>th</sup> November 2020/15:20	09-00345	700	Kalanki	Early
2020-09-223334	9 <sup>th</sup> November 2020/14:40	09-00360	5000	Baluwatar	On Time
2020-09-223334	9 <sup>th</sup> November 2020/16:50	09-09000	3450	Kalanki	Late

Table 15: Order table after 3NF

❖ Dish table

<b><u>Dish Code</u></b>	<b>Dish Name</b>	<b>Dish Rate</b>	<b>Local Name</b>
CHKMO	Chicken Momo	350	Dumplings
MIXCHT	Mixed Chatamari	325	Nepali Pizza

Table 16: Dish table after 3NF

❖ Restaurant table

<b><u>Restaurant ID</u></b>	<b><u>Restaurant Name</u></b>
R01	Taste Buds
R02	Local Foodie

Table 17: Restaurant table after 3NF

❖ Order\_Dish table

<u>Dish Code</u>	<u>Order Number</u>	<u>Restaurant ID</u>	<u>Order Unit</u>	<u>Line Total</u>
CHKMO	09-00231	R01	6 Plates	2100
MIXCHT	09-00231	R02	2 Plate	650
CHKMO	09-00345	R01	2 Plates	700

Table 18: Order\_Dish table after 3NF

## 4. Data Dictionary

Data dictionary of 1.2 final entity relationship diagram is shown in the tables below:

❖ Table: dish

Attributes	Data Type	Field size	Constraints	Description	Example Data
dish_code	varchar	6	Primary key	dish_code is the primary key of this table.	MIXCHT
dish_name	varchar	30	Not null	Name of dish.	Mixed Chatamari
dish_rate	number	5	Not null	Rate of dish.	470
local_name	varchar	25	Not null	Local name of dish.	Nepali Pizza

Table 19: Data dictionary of dish table

Here are the four attributes of dish table:

- a. dish\_code: dish\_code is the primary key of dish table. It's data type is varchar and field size is 6. It's example data is 'MIXCHT'.
- b. dish\_name: dish\_name stores the names of dishes. It's data type is varchar and field size is 30. It's example data is 'Mixed Chatamari'.
- c. dish\_rate: dish\_rate stores the rates of dishes. It's data type is number and field size is 5. It's example data is 470.
- d. local\_name: local\_name stores the local names of dishes. It's data type is varchar and field size is 25. It's example data is 'Nepali Pizza'.

❖ Table: restaurant

Attributes	Data Type	Field size	Constraints	Description	Example Data
restaurant_id	varchar	5	Primary key	restaurant_id is the primary key of this table.	R1010
restaurant_name	varchar	30	Not null	Name of restaurant.	Eat Street
restaurant_address	varchar	60	Not null	Address of restaurant.	Gaundakomukh-13, Pokhara
contact_number	varchar	10	Not null	Contact number of restaurant.	9898078680

Table 20: Data dictionary of restaurant table

Here are the four attributes of restaurant table.

- a. restaurant\_id: restaurant\_id is the primary key of restaurant table. It's data type is varchar and field size is 5. It's example data is 'R1010'.
- b. restaurant\_name: restaurant\_name stores the names of restaurants. It's data type is varchar and field size is 30. It's example data is 'Eat Street'.
- c. restaurant\_address: restaurant\_address stores the addresses of restaurants. It's data type is varchar and field size is 60. It's example data is 'Gaundakomukh-13, Pokhara'.
- d. contact\_number: contact\_number stores the contact numbers of the restaurants. It's data type is varchar and field size is 10. It's example data is '9898078680'.

❖ Table: customer

Attributes	Data Type	Field size	Constraints	Description	Example Data
customer_id	varchar	5	Primary key	customer_id is the primary key of this table.	C0016
customer_name	varchar	35	Not null	Name of customer.	Reece James
age	number	3	Not null	Age of customer.	20
address	varchar	60	Not null	Address of customer.	Miyapatan-13, Pokhara
contact_number	varchar	10	Not null	Contact number of customer.	9801667800

Table 21: Data dictionary of customer table

Here are the five attributes of customer table:

- customer\_id: customer\_id is the primary key of customer table. It's data type is varchar and field size is 5. It's example data is 'C0016'.
- customer\_name: customer\_name stores the names of customers. It's data type is varchar and field size is 35. It's example data is 'Reece James'.
- age: age stores the ages of customers. It's data type is number and field size is 3. It's example data is 20.
- address: address stores the addresses of customers. It's data type is varchar and field size is 60. It's example data is 'Miyapatan-13, Pokhara'.
- contact\_number: contact\_number stores the contact numbers of customers. It's data type is varchar and field size is 10. It's example data is '9801667800'.

❖ Table: loyalty

Attributes	Data Type	Field size	Constraints	Description	Example Data
loyalty_id	varchar	8	Primary key	loyalty_id is the primary key of this table.	2021L008
description	varchar	130	Not null	Description of loyalty.	This loyalty is for Chicken Thakali Khana dish of Greasy Spoon restaurant. It has 10 loyalty points.
loyalty_points	number	3	Not null	Loyalty points.	10
dish_code	varchar	6	Foreign key	dish_code is referenced from dish_code attribute of dish table.	CHKTHA
restaurant_id	varchar	5	Foreign key	This restaurant_id is referenced from restaurant_id attribute of restaurant table.	R1008

Table 22: Data dictionary of loyalty table

Here are the five attributes of loyalty table:

- a. loyalty\_id: loyalty\_id is the primary key of loyalty table. It's data type is varchar and field size is 8. It's example data is '2021L008'.
- b. description: description stores the description details of loyalties. It's data type is varchar and field size is 130. It's example data is 'This loyalty is for Chicken Thakali Khana dish of Greasy Spoon restaurant. It has 10 loyalty points.'
- c. loyalty\_points: loyalty\_points stores the points of each loyalty. It's data type is number and field size is 3. It's example data is 10.
- d. dish\_code: dish\_code is a foreign key of loyalty table which is referenced from dish\_code attribute of dish table. It's data type is varchar and field size is 6. It's example data is 'CHKTHA'.
- e. restaurant\_id: restaurant\_id is a foreign key of loyalty table which is referenced from restaurant\_id attribute of restaurant table. It's data type is varchar and field size is 5. It's example data is 'R1008'.

❖ Table: delivery\_address

Attributes	Data Type	Field size	Constraints	Description	Example Data
Delivery_id	Varchar	4	Primary key	Delivery_id is the primary key of this table.	D003
Delivery_point	Varchar	60	Not null	Delivery address.	Mahendra Pool, Pokhara
Delivery_time	Varchar	15	Not null	Delivery time.	20 minutes
Delivery_cost	number	5	Not null	Delivery cost.	1000

Table 23: Data dictionary of delivery\_address table

Here are the four attributes of delivery\_address:

- a. delivery\_id: delivery\_id is the primary key of delivery\_address table. It's data type is varchar and field size is 4. It's example data is 'D003'.
- b. Delivery\_point: delivery\_point stores the address or location where dishes are to be delivered. It's data type is varchar and field size is 60. It's example data is 'Mahendra Pool, Pokhara'.
- c. Delivery\_time: delivery\_time stores the time required to deliver dishes. It's data type is varchar and field size is 15. It's example data is '20 minutes'.
- d. Delivery\_cost: delivery\_cost stores the delivery costs for each delivery point. It's data type is number and field size is 5. It's example data is 1000.

❖ Table: order\_details

Attributes	Data Type	Field size	Constraints	Description	Example Data
Order_number	Varchar	8	Primary key	Order_number is the primary key of this table.	09-00239
SN	Varchar	15	Not null	Serial number.	2020-12-223319
Order_date	Date	-	Not null	Order date.	10-Dec-20
Order_amount	Number	6	Not null	Order amount.	490
Customer_id	Varchar	5	Foreign key	This customer_id is referenced from customer_id attribute of customer table.	C0008
Delivery_id	Varchar	4	Foreign key	This delivery_id is referenced from delivery_id	D007

				attribute of delivery_addresses table.	
Dish_code	Varchar	6	Foreign key	This dish_code is referenced from dish_code of dish table.	MASDOS
Restaurant_id	Varchar	5	Foreign key	This restaurant_id is referenced from restaurant_id attribute of restaurant table.	R1008
status	Varchar	7	Not null	It stores three values: 'On Time', 'Early' and 'Late'.	On Time

*Table 24: Data dictionary of order\_details table*

Here are the nine attributes of order\_details table:

- a. Order\_number: order\_number is the primary key of order\_details table. It's data type is varchar and field size is 8. It's example data is '09-00239'.
- b. SN: SN stores the serial number of each order. It's data type is varchar and field size is 15. It's example data is '2020-12-223319'.
- c. Order\_date: order\_date stores orders' dates. It's data type is date. It's example data is '10-Dec-2020'.
- d. Order\_amount: order\_amount stores the total order amount. It's data type is number and field size is 6. It's example data is 490.
- e. Customer\_id: customer\_id is a foreign key that is referenced from customer\_id attribute of customer table. It's data type is varchar and field size is 5. It's example data is 'C0008'.

- f. Delivery\_id: delivery\_id is a foreign key that is referenced from delivery\_id attribute of delivery\_address table. It's data type is varchar and field size is 4. It's example data is 'D007'.
- g. Dish\_code: dish\_code is a foreign key that is referenced from dish\_code attribute of dish table. It's data type is varchar and field size is 6. It's example data is 'MASDOS'.
- h. Restaurant\_id: Restaurant\_id is a foreign key that is referenced from restaurant\_id attribute of restaurant table. It's data type is varchar and field size is 5. It's example data is 'R1008'.
- i. Status: status attribute stores the status of dish delivery i.e., either 'On Time', 'Early' or 'Late'. It's data type is varchar and field size is 7. It's example data is 'On Time'.

❖ Table: dish\_restaurant

Attributes	Data Type	Field size	Constraints	Description	Example Data
Dish_code	Varchar	6	Composite Primary key	This dish_code is referenced from dish_code attribute of dish table.	CHKMO
Restaurant_id	Varchar	5		This restaurant_id is referenced from restaurant_id attribute of restaurant table.	R1001
Dish_rate	number	5	Not null	Rate of dish.	350

Table 25: Data dictionary of dish\_restaurant table

Here are the three attributes of dish\_restaurant table:

- a. dish\_code: dish\_code is a foreign key which is referenced from dish\_code attribute of dish table. It's data type is varchar and field size is 6. It's example data is 'CHKMO'.
- b. Restaurant\_id: restaurant\_id is a foreign key which is referenced from restaurant\_id attribute of restaurant table. It's data type is varchar and field size is 5. It's example data is 'R1001'.  
[**Note:** dish\_code and restaurant\_id are combined to make a composite primary key of this table.]
- c. Dish\_rate: dish\_rate stores the rates of all dishes. It's data type is number and field size is 5. It's example data is 350 (Duran, 2019).

## 5. Generation of Database

### 5.1 Table Generation

1. Creating user: cwkushal

```
SQL> create user cwkushal identified by gurung;  
User created.
```

Figure 3: Creating user: cwkushal

2. Granting all privileges to user: cwkushal

```
SQL> conn sys as sysdba  
Enter password:  
Connected.  
SQL> grant all privileges to cwkushal;  
  
Grant succeeded.
```

Figure 4: Granting all privileges to user: cwkushal

3. Connecting to user: cwkushal

```
SQL> conn cwkushal/gurung  
Connected.
```

Figure 5: Connecting to user: cwkushal

## 4. Creating table: dish

The screenshot shows the Oracle SQL Developer interface. The 'Worksheet' tab is active, displaying the SQL code for creating the 'dish' table:

```
create table dish(
    dish_code varchar(6) primary key,
    dish_name varchar(30) not null,
    dish_rate number(5) not null,
    local_name varchar(25) not null);
```

Below the worksheet, the 'Script Output' tab shows the result of the query:

Table DISH created.

Figure 6: Creation of dish table

## 5. Description of table: dish

The screenshot shows the Oracle SQL Developer interface. The 'Worksheet' tab is active, displaying the SQL command to describe the 'dish' table:

```
desc dish;
```

Below the worksheet, the 'Script Output' tab shows the results of the 'DESC' command:

Name	Null?	Type
DISH_CODE	NOT NULL	VARCHAR2 (6)
DISH_NAME	NOT NULL	VARCHAR2 (30)
DISH_RATE	NOT NULL	NUMBER (5)
LOCAL_NAME	NOT NULL	VARCHAR2 (25)

Figure 7: Description of dish table

## 6. Creating table: restaurant

The screenshot shows the Oracle SQL Developer interface. The top menu bar has 'Worksheet' and 'Query Builder' tabs, with 'Worksheet' selected. In the main workspace, the following SQL code is written:

```
create table restaurant(
    restaurant_id varchar(5) primary key,
    restaurant_name varchar(30) not null,
    restaurant_address varchar(60) not null,
    contact_number varchar(10) not null);
```

Below the workspace are two tabs: 'Query Result' and 'Script Output'. The 'Script Output' tab is active, showing the message 'Task completed in 0.061 seconds'. There are also several toolbar icons at the bottom.

Table RESTAURANT created.

Figure 8: Creation of restaurant table

## 7. Description of table: restaurant

The screenshot shows the Oracle SQL Developer interface. The top menu bar has 'Worksheet' and 'Query Builder' tabs, with 'Worksheet' selected. In the main workspace, the following SQL code is written:

```
desc restaurant;
```

Below the workspace is a 'Script Output' tab showing the message 'Task completed in 0.258 seconds'. At the bottom, there is a table describing the columns of the RESTAURANT table:

Name	Null?	Type
RESTAURANT_ID	NOT NULL	VARCHAR2(5)
RESTAURANT_NAME	NOT NULL	VARCHAR2(30)
RESTAURANT_ADDRESS	NOT NULL	VARCHAR2(60)
CONTACT_NUMBER	NOT NULL	VARCHAR2(10)

Figure 9: Description of restaurant table

## 8. Creating table: customer

The screenshot shows the Oracle SQL Developer interface. The top tab bar has 'Worksheet' selected. In the main workspace, a SQL script is displayed:

```
create table customer(
    customer_id varchar(5) primary key,
    customer_name varchar(35) not null,
    age number(3) not null,
    address varchar(60) not null,
    contact_number varchar(10) not null);
```

Below the workspace are two tabs: 'Query Result' and 'Script Output'. The 'Script Output' tab shows the message: 'Task completed in 0.056 seconds'. The bottom part of the interface displays the message: 'Table CUSTOMER created.'

Figure 10: Creation of customer table

## 9. Description of table: customer

The screenshot shows the Oracle SQL Developer interface. The top tab bar has 'Worksheet' selected. In the main workspace, the command 'desc customer;' is entered.

Below the workspace is a 'Script Output' tab showing the message: 'Task completed in 0.061 seconds'. The bottom part of the interface displays the table description:

Name	Null?	Type
CUSTOMER_ID	NOT NULL	VARCHAR2 (5)
CUSTOMER_NAME	NOT NULL	VARCHAR2 (35)
AGE	NOT NULL	NUMBER (3)
ADDRESS	NOT NULL	VARCHAR2 (60)
CONTACT_NUMBER	NOT NULL	VARCHAR2 (10)

Figure 11: Description of customer table

## 10. Creating table: delivery\_address

The screenshot shows the Oracle SQL Developer interface. The top tab bar has 'Worksheet' selected. In the main workspace, a SQL script is being run:

```
create table delivery_address(
    delivery_id varchar(4) primary key,
    delivery_point varchar(60) not null,
    delivery_time varchar(15) not null,
    delivery_cost number(5) not null);
```

Below the workspace are two tabs: 'Query Result' and 'Script Output'. The 'Script Output' tab shows the message: 'Task completed in 0.055 seconds'. The bottom part of the interface displays the message: 'Table DELIVERY\_ADDRESS created.'

Figure 12: Creation of delivery\_address table

## 11. Description of table: delivery\_address

The screenshot shows the Oracle SQL Developer interface. The top tab bar has 'Worksheet' selected. In the main workspace, the command 'desc delivery\_address;' is being run:

```
desc delivery_address;
```

Below the workspace is a 'Script Output' tab showing the message: 'Task completed in 0.147 seconds'. The bottom part of the interface displays the table description:

Name	Null?	Type
DELIVERY_ID	NOT NULL	VARCHAR2 (4)
DELIVERY_POINT	NOT NULL	VARCHAR2 (60)
DELIVERY_TIME	NOT NULL	VARCHAR2 (15)
DELIVERY_COST	NOT NULL	NUMBER (5)

Figure 13: Description of delivery\_address table

## 12. Creating table: loyalty

The screenshot shows the Oracle SQL Developer interface. In the top-left corner, there are tabs for 'Worksheet' and 'Query Builder'. The 'Worksheet' tab is active, displaying the SQL code for creating the 'LOYALTY' table:

```
create table loyalty(
    loyalty_id varchar(8) primary key,
    description varchar(130) not null,
    loyalty_points number(3),
    dish_code varchar(6) references dish(dish_code) not null,
    restaurant_id varchar(5) references restaurant(restaurant_id) not null);
```

Below the code, there are two tabs: 'Query Result' and 'Script Output'. The 'Script Output' tab is selected, showing the message 'Table LOYALTY created.'.

Figure 14: Creation of loyalty table

## 13. Description of table: loyalty

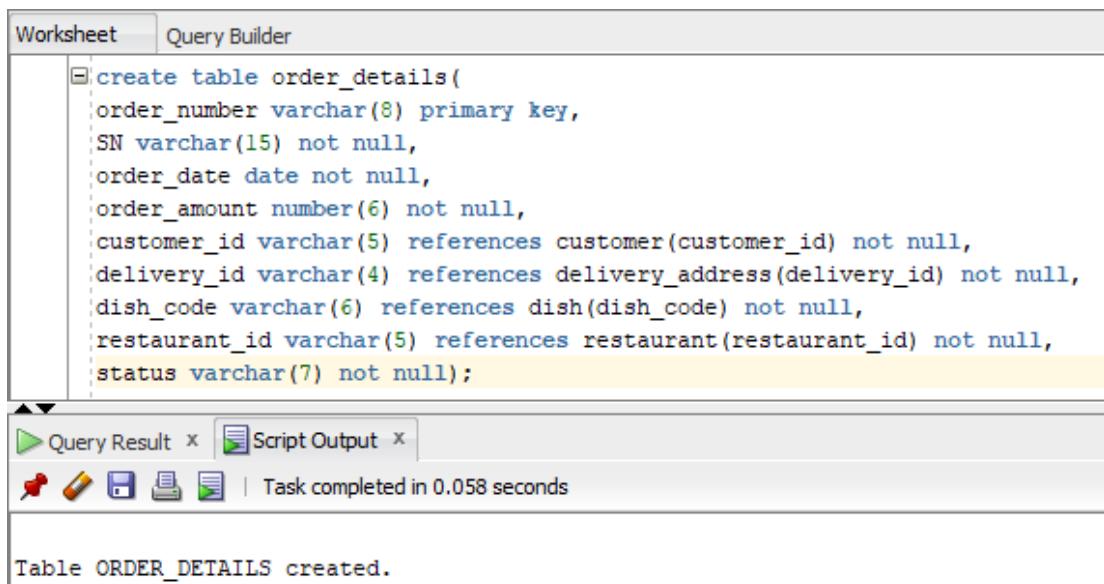
The screenshot shows the Oracle SQL Developer interface. In the top-left corner, there are tabs for 'Worksheet' and 'Query Builder'. The 'Worksheet' tab is active, displaying the SQL command 'desc loyalty;'. Below the worksheet, there is a 'Script Output' tab which displays the table structure:

Name	Null?	Type
LOYALTY_ID	NOT NULL	VARCHAR2 (8)
DESCRIPTION	NOT NULL	VARCHAR2 (130)
LOYALTY_POINTS		NUMBER (3)
DISH_CODE	NOT NULL	VARCHAR2 (6)
RESTAURANT_ID	NOT NULL	VARCHAR2 (5)

Below the table, there is a message 'Task completed in 0.046 seconds'.

Figure 15: Description of loyalty table

## 14. Creating table: order\_details



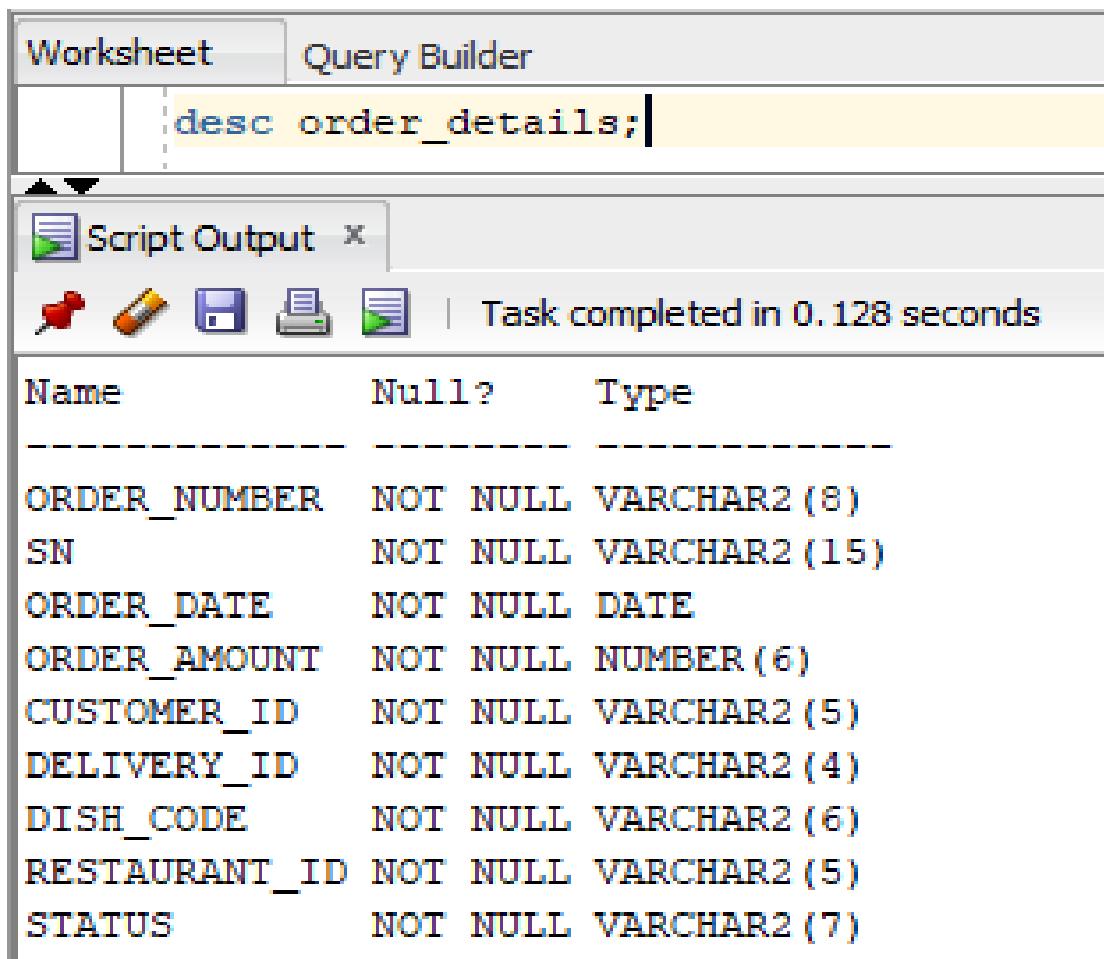
The screenshot shows the Oracle SQL Developer interface. The 'Worksheet' tab is active, displaying the SQL code for creating the 'order\_details' table. The code defines the table with columns: order\_number (primary key, varchar(8)), SN (varchar(15) not null), order\_date (date not null), order\_amount (number(6) not null), customer\_id (varchar(5) references customer(customer\_id) not null), delivery\_id (varchar(4) references delivery\_address(delivery\_id) not null), dish\_code (varchar(6) references dish(dish\_code) not null), restaurant\_id (varchar(5) references restaurant(restaurant\_id) not null), and status (varchar(7) not null). Below the code, the 'Script Output' tab shows the message 'Table ORDER\_DETAILS created.' and a completion time of 0.058 seconds.

```
create table order_details(
    order_number varchar(8) primary key,
    SN varchar(15) not null,
    order_date date not null,
    order_amount number(6) not null,
    customer_id varchar(5) references customer(customer_id) not null,
    delivery_id varchar(4) references delivery_address(delivery_id) not null,
    dish_code varchar(6) references dish(dish_code) not null,
    restaurant_id varchar(5) references restaurant(restaurant_id) not null,
    status varchar(7) not null);
```

Table ORDER\_DETAILS created.  
Task completed in 0.058 seconds

Figure 16: Creation of order\_details table

## 15. Description of table: order\_details



The screenshot shows the Oracle SQL Developer interface. The 'Worksheet' tab is active, displaying the SQL command 'desc order\_details;'. The 'Script Output' tab shows the table structure with columns: ORDER\_NUMBER (NOT NULL VARCHAR2(8)), SN (NOT NULL VARCHAR2(15)), ORDER\_DATE (NOT NULL DATE), ORDER\_AMOUNT (NOT NULL NUMBER(6)), CUSTOMER\_ID (NOT NULL VARCHAR2(5)), DELIVERY\_ID (NOT NULL VARCHAR2(4)), DISH\_CODE (NOT NULL VARCHAR2(6)), RESTAURANT\_ID (NOT NULL VARCHAR2(5)), and STATUS (NOT NULL VARCHAR2(7)).

```
desc order_details;
```

Name	Null?	Type
ORDER_NUMBER	NOT NULL	VARCHAR2(8)
SN	NOT NULL	VARCHAR2(15)
ORDER_DATE	NOT NULL	DATE
ORDER_AMOUNT	NOT NULL	NUMBER(6)
CUSTOMER_ID	NOT NULL	VARCHAR2(5)
DELIVERY_ID	NOT NULL	VARCHAR2(4)
DISH_CODE	NOT NULL	VARCHAR2(6)
RESTAURANT_ID	NOT NULL	VARCHAR2(5)
STATUS	NOT NULL	VARCHAR2(7)

Figure 17: Description of order\_details table

## 16. Creating table: dish\_restaurant

The screenshot shows the Oracle SQL Developer interface. In the top tab bar, 'Worksheet' is selected. The main area contains the SQL code for creating the 'dish\_restaurant' table:

```
create table dish_restaurant(
    dish_code varchar(6) references dish(dish_code) not null,
    restaurant_id varchar(5) references restaurant(restaurant_id) not null,
    primary key(dish_code, restaurant_id),
    dish_rate number(5) not null);
```

Below the code, the 'Script Output' tab is active, showing the message: 'Task completed in 0.044 seconds'. At the bottom, a message says 'Table DISH\_RESTAURANT created.'

Figure 18: Creation of dish\_restaurant table

## 17. Description of table: dish\_restaurant

The screenshot shows the Oracle SQL Developer interface. In the top tab bar, 'Worksheet' is selected. The main area contains the SQL command: 'desc dish\_restaurant;'. Below it, the 'Script Output' tab is active, showing the message: 'Task completed in 0.138 seconds'. The results are displayed in a table format:

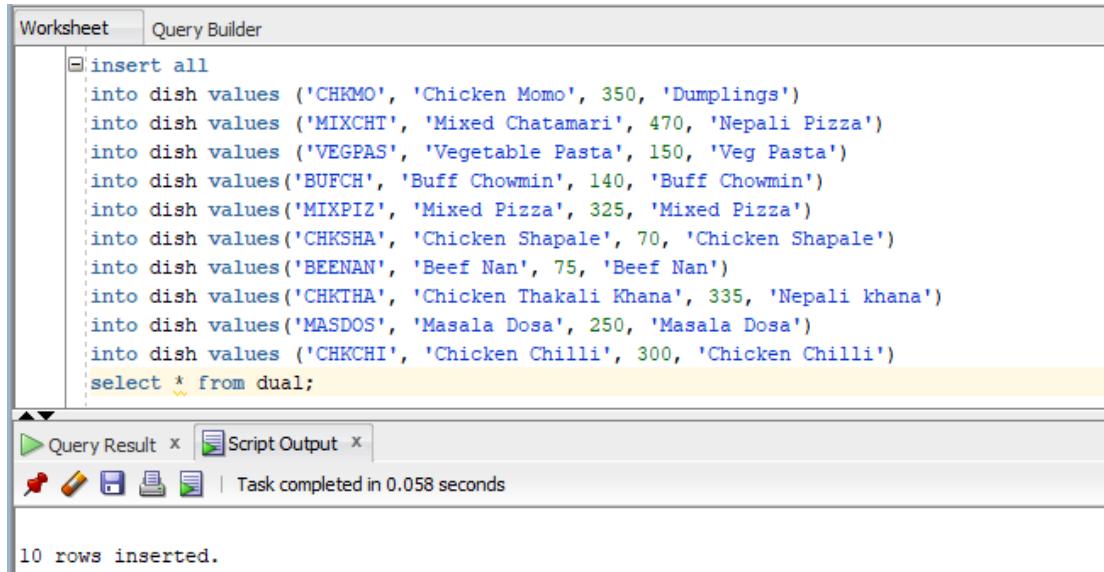
Name	Null?	Type
DISH_CODE	NOT NULL	VARCHAR2 (6)
RESTAURANT_ID	NOT NULL	VARCHAR2 (5)
DISH_RATE	NOT NULL	NUMBER (5)

Figure 19: Description of dish\_restaurant table

(oracleadmin, 2013)

## 5.2 Database tables population

### 1. Inserting data in table: dish



The screenshot shows the Oracle SQL Developer interface. The 'Worksheet' tab is active, displaying an SQL script to insert data into the 'dish' table. The script includes 10 rows of food items with their names, prices, and descriptions. Below the script, the message '10 rows inserted.' is displayed. The bottom status bar indicates the task completed in 0.058 seconds.

```

insert all
into dish values ('CHKMO', 'Chicken Momo', 350, 'Dumplings')
into dish values ('MIXCHT', 'Mixed Chatamari', 470, 'Nepali Pizza')
into dish values ('VEGPAS', 'Vegetable Pasta', 150, 'Veg Pasta')
into dish values('BUFCH', 'Buff Chowmin', 140, 'Buff Chowmin')
into dish values('MIXPIZ', 'Mixed Pizza', 325, 'Mixed Pizza')
into dish values('CHKSHA', 'Chicken Shapale', 70, 'Chicken Shapale')
into dish values('BEEENAN', 'Beef Nan', 75, 'Beef Nan')
into dish values('CHKTHA', 'Chicken Thakali Khana', 335, 'Nepali khana')
into dish values('MASDOS', 'Masala Dosa', 250, 'Masala Dosa')
into dish values ('CHKCHI', 'Chicken Chilli', 300, 'Chicken Chilli')
select * from dual;

```

10 rows inserted.

Figure 20: Inserting data in dish table

### 2. Inserting data in table: restaurant



The screenshot shows the Oracle SQL Developer interface. The 'Worksheet' tab is active, displaying an SQL script to insert data into the 'restaurant' table. The script includes 10 rows of restaurant details such as name, address, and phone number. Below the script, the message '10 rows inserted.' is displayed. The bottom status bar indicates the task completed in 0.059 seconds.

```

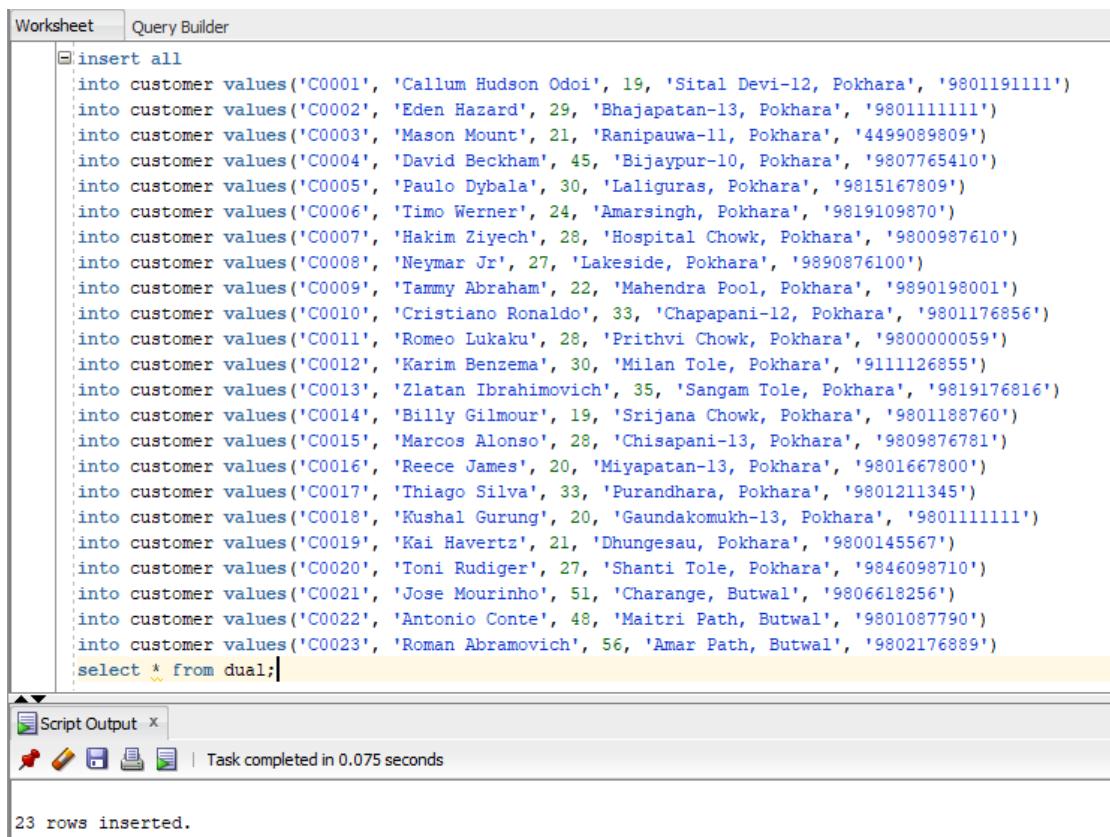
insert all
into restaurant values('R1001', 'Feels Good', 'Lakeside, Pokhara', '9800000000')
into restaurant values('R1002', 'Thakali', 'New Road, Kathmandu', '9811111111')
into restaurant values('R1003', 'Dunga Restro', 'Lakeside, Pokhara', '9811200000')
into restaurant values('R1004', 'Anaki Restaurant', 'Naghdhunga-08, Pokhara', '9811113456')
into restaurant values('R1005', 'Bay Leaf Restaurant', 'Amarsingh, Pokhara', '9811144444')
into restaurant values('R1006', 'Sherpa Kitchen', 'Uttam Chowk, Pokhara', '9809876541')
into restaurant values('R1007', 'Shantiko Kitchen', 'Naya Bazar, Pokhara', '9846088888')
into restaurant values('R1008', 'Greasy Spoon Restaurant', 'Narayanghat, Chitwan', '9845908335')
into restaurant values('R1009', 'Jalapeno Restaurant', 'Kahun, Chitwan', '9889335578')
into restaurant values('R1010', 'Eat Street', 'Gaundakomukh-13, Pokhara', '9898078680')
select * from dual;

```

10 rows inserted.

Figure 21: Inserting data in restaurant table

### 3. Inserting data in table: customer



The screenshot shows the Oracle SQL Developer interface. The 'Worksheet' tab is active, displaying an SQL script. The script uses the 'insert all' command to insert 23 rows into the 'customer' table. Each row contains a customer ID (C0001 to C0023), name, age, address, and phone number. The 'Script Output' tab at the bottom shows a success message: 'Task completed in 0.075 seconds' and '23 rows inserted.'

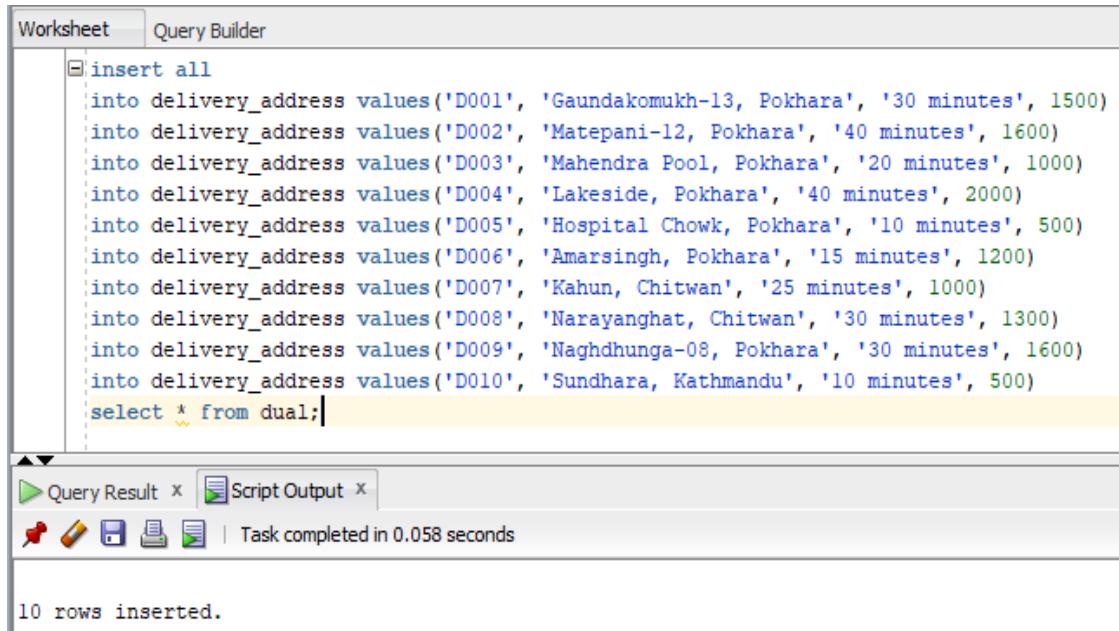
```

insert all
into customer values('C0001', 'Callum Hudson Odoi', 19, 'Sital Devi-12, Pokhara', '9801191111')
into customer values('C0002', 'Eden Hazard', 29, 'Bhajapatan-13, Pokhara', '9801111111')
into customer values('C0003', 'Mason Mount', 21, 'Ranipaupa-11, Pokhara', '4499089809')
into customer values('C0004', 'David Beckham', 45, 'Bijaypur-10, Pokhara', '9807765410')
into customer values('C0005', 'Paulo Dybala', 30, 'Laliguras, Pokhara', '9815167809')
into customer values('C0006', 'Timo Werner', 24, 'Amarsinhg, Pokhara', '9819109870')
into customer values('C0007', 'Hakim Ziyech', 28, 'Hospital Chowk, Pokhara', '9800987610')
into customer values('C0008', 'Neymar Jr', 27, 'Lakeside, Pokhara', '9890876100')
into customer values('C0009', 'Tammy Abraham', 22, 'Mahendra Pool, Pokhara', '9890198001')
into customer values('C0010', 'Cristiano Ronaldo', 33, 'Chapapani-12, Pokhara', '9801176856')
into customer values('C0011', 'Romeo Lukaku', 28, 'Prithvi Chowk, Pokhara', '9800000059')
into customer values('C0012', 'Karim Benzema', 30, 'Milan Tole, Pokhara', '9111126855')
into customer values('C0013', 'Zlatan Ibrahimovich', 35, 'Sangam Tole, Pokhara', '9819176816')
into customer values('C0014', 'Billy Gilmour', 19, 'Srijana Chowk, Pokhara', '9801188760')
into customer values('C0015', 'Marcos Alonso', 28, 'Chisapani-13, Pokhara', '9809876781')
into customer values('C0016', 'Reece James', 20, 'Miyapatian-13, Pokhara', '9801667800')
into customer values('C0017', 'Thiago Silva', 33, 'Purandhara, Pokhara', '9801211345')
into customer values('C0018', 'Kushal Gurung', 20, 'Gaundakomukh-13, Pokhara', '9801111111')
into customer values('C0019', 'Kai Havertz', 21, 'Dhungesau, Pokhara', '9800145567')
into customer values('C0020', 'Toni Rudiger', 27, 'Shanti Tole, Pokhara', '9846098710')
into customer values('C0021', 'Jose Mourinho', 51, 'Charange, Butwal', '9806618256')
into customer values('C0022', 'Antonio Conte', 48, 'Maitri Path, Butwal', '9801087790')
into customer values('C0023', 'Roman Abramovich', 56, 'Amar Path, Butwal', '9802176889')
select * from dual;

```

Figure 22: Inserting data in customer table

### 4. Inserting data in table: delivery\_address



The screenshot shows the Oracle SQL Developer interface. The 'Worksheet' tab is active, displaying an SQL script. The script uses the 'insert all' command to insert 10 rows into the 'delivery\_address' table. Each row contains a delivery ID (D001 to D010), address, delivery time, and duration. The 'Query Result' tab at the bottom shows a success message: 'Task completed in 0.058 seconds' and '10 rows inserted.'

```

insert all
into delivery_address values('D001', 'Gaundakomukh-13, Pokhara', '30 minutes', 1500)
into delivery_address values('D002', 'Matepani-12, Pokhara', '40 minutes', 1600)
into delivery_address values('D003', 'Mahendra Pool, Pokhara', '20 minutes', 1000)
into delivery_address values('D004', 'Lakeside, Pokhara', '40 minutes', 2000)
into delivery_address values('D005', 'Hospital Chowk, Pokhara', '10 minutes', 500)
into delivery_address values('D006', 'Amarsinhg, Pokhara', '15 minutes', 1200)
into delivery_address values('D007', 'Kahun, Chitwan', '25 minutes', 1000)
into delivery_address values('D008', 'Narayanghat, Chitwan', '30 minutes', 1300)
into delivery_address values('D009', 'Naghdhunga-08, Pokhara', '30 minutes', 1600)
into delivery_address values('D010', 'Sundhara, Kathmandu', '10 minutes', 500)
select * from dual;

```

Figure 23: Inserting data in delivery\_address table

## 5. Inserting data in table: loyalty

```

Worksheet | Query Builder
insert all
  into loyalty values ('2021L001', 'This loyalty is for Mixed Chatamari dish of Chelsea Hotel restaurant. It has 5 loyalty points.', 5, 'MIXCHT', 'R1003')
  into loyalty values ('2021L002', 'This loyalty is for Chicken Momo dish of Feels Good restaurant. It has 5 loyalty points.', 5, 'CHRMO', 'R1001')
  into loyalty values ('2021L003', 'This loyalty is for Vegetable Pasta dish of Thakali restaurant. It has 3 loyalty points.', 3, 'VEGPAS', 'R1002')
  into loyalty values ('2021L004', 'This loyalty is for Buff Chommin dish of Anaki restaurant. It has 5 loyalty points.', 5, 'BUFCH', 'R1004')
  into loyalty values ('2021L005', 'This loyalty is for Mixed Pizza dish of Bay Leaf restaurant. It has 10 loyalty points.', 10, 'MIXPIZ', 'R1005')
  into loyalty values ('2021L006', 'This loyalty is for Chicken Shapale dish of Sherpa Kitchen restaurant. It has 2 loyalty points.', 2, 'CHKSHA', 'R1006')
  into loyalty values ('2021L007', 'This loyalty is for Beef Nan dish of Shantiko Kitchen restaurant. It has 1 loyalty point.', 1, 'BEE NAN', 'R1007')
  into loyalty values ('2021L008', 'This loyalty is for Chicken Thakali Khana dish of Greasy Spoon restaurant. It has 10 loyalty points.', 10, 'CHKTHA', 'R1008')
  into loyalty values ('2021L009', 'This loyalty is for Masala Dosa dish of Jalapeno restaurant. It has 7 loyalty points.', 7, 'MASDOS', 'R1009')
  into loyalty values ('2021L010', 'This loyalty is for Chicken Chilli dish of Eat Street restaurant. It has 4 loyalty points.', 4, 'CHKCHI', 'R1010')
select * from dual;

Script Output X
Task completed in 0.095 seconds
10 rows inserted.

```

Figure 24: Inserting data in loyalty table

## 6. Inserting data in table: order\_details

```

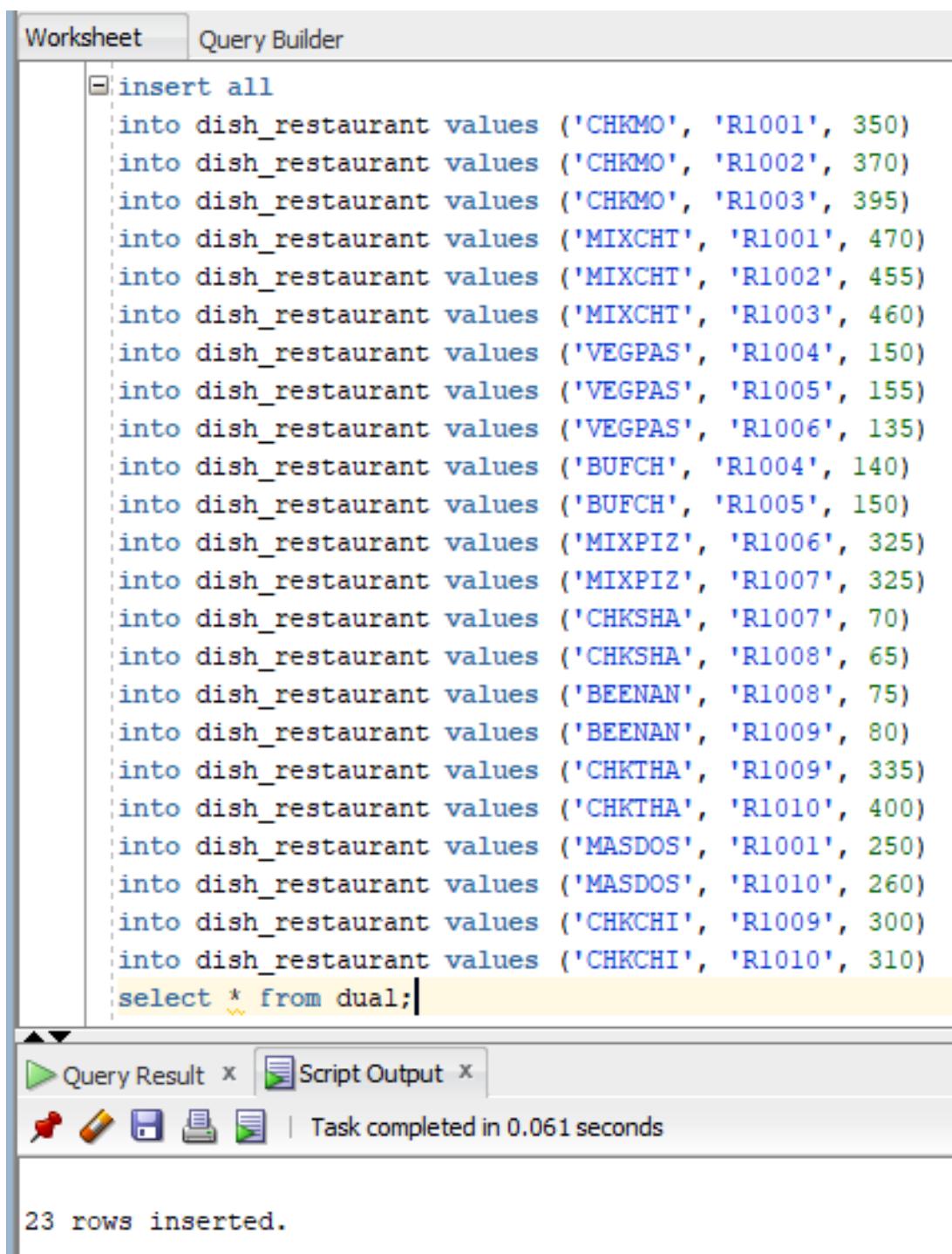
Worksheet | Query Builder
insert all
  into order_details values ('09-00232', '2020-11-223312', '12-NOV-20', 1700, 'C0001', 'D002', 'CHKMO', 'R1001', 'On Time')
  into order_details values ('09-00233', '2020-11-223313', '12-NOV-20', 750, 'C0002', 'D001', 'MIXCHT', 'R1002', 'Early')
  into order_details values ('09-00234', '2020-11-223314', '13-NOV-20', 500, 'C0003', 'D004', 'BEE NAN', 'R1003', 'Late')
  into order_details values ('09-00235', '2020-11-223315', '15-NOV-20', 900, 'C0004', 'D003', 'BUFCH', 'R1004', 'On Time')
  into order_details values ('09-00236', '2020-11-223316', '16-NOV-20', 700, 'C0005', 'D006', 'CHKCHI', 'R1005', 'On Time')
  into order_details values ('09-00237', '2020-11-223317', '16-NOV-20', 610, 'C0006', 'D005', 'CHKSHA', 'R1006', 'On Time')
  into order_details values ('09-00238', '2020-11-223318', '16-NOV-20', 1010, 'C0007', 'D008', 'CHKTHA', 'R1007', 'Late')
  into order_details values ('09-00239', '2020-12-223319', '10-DEC-20', 490, 'C0008', 'D007', 'MASDOS', 'R1008', 'On Time')
  into order_details values ('09-00240', '2020-12-223320', '11-DEC-20', 740, 'C0009', 'D010', 'MIXPIZ', 'R1009', 'On Time')
  into order_details values ('09-00241', '2020-12-223321', '24-DEC-20', 940, 'C0010', 'D009', 'VEGPAS', 'R1010', 'On Time')
  into order_details values ('09-00242', '2020-11-223322', '24-DEC-20', 700, 'C0011', 'D002', 'CHKMO', 'R1010', 'On Time')
  into order_details values ('09-00243', '2020-11-223323', '24-DEC-20', 900, 'C0012', 'D003', 'BUFCH', 'R1010', 'On Time')
  into order_details values ('09-00244', '2020-11-223324', '24-DEC-20', 900, 'C0013', 'D006', 'VEGPAS', 'R1009', 'On Time')
  into order_details values ('09-00245', '2020-11-223325', '26-DEC-20', 1200, 'C0014', 'D006', 'CHRMO', 'R1009', 'On Time')
  into order_details values ('09-00246', '2020-11-223326', '26-DEC-20', 300, 'C0015', 'D007', 'CHKMO', 'R1007', 'On Time')
  into order_details values ('09-00247', '2020-11-223327', '24-DEC-20', 550, 'C0016', 'D002', 'MIXCHT', 'R1007', 'On Time')
  into order_details values ('09-00248', '2020-11-223328', '24-DEC-20', 725, 'C0017', 'D005', 'CHKTHA', 'R1001', 'On Time')
  into order_details values ('09-00249', '2020-11-223329', '25-DEC-20', 325, 'C0018', 'D006', 'CHKSHA', 'R1006', 'Late')
  into order_details values ('09-00250', '2020-11-223330', '25-DEC-20', 450, 'C0019', 'D007', 'MIXPIZ', 'R1006', 'Late')
  into order_details values ('09-00251', '2020-11-223331', '25-DEC-20', 330, 'C0020', 'D008', 'VEGPAS', 'R1006', 'On Time')
  into order_details values ('09-00252', '2020-11-223332', '26-DEC-20', 570, 'C0021', 'D003', 'MIXCHT', 'R1006', 'On Time')
  into order_details values ('09-00253', '2020-11-223333', '26-DEC-20', 225, 'C0022', 'D005', 'BUFCH', 'R1006', 'On Time')
  into order_details values ('09-00254', '2020-11-223334', '26-DEC-20', 325, 'C0023', 'D007', 'MIXCHT', 'R1009', 'On Time')
select * from dual;

Script Output X
Task completed in 0.068 seconds
23 rows inserted.

```

Figure 25: Inserting data in order\_details table

## 7. Inserting data in table: dish\_restaurant



The screenshot shows the Oracle SQL Developer interface. The top tab bar has 'Worksheet' and 'Query Builder' tabs, with 'Worksheet' selected. The main workspace contains the following SQL code:

```

insert all
into dish_restaurant values ('CHKMO', 'R1001', 350)
into dish_restaurant values ('CHKMO', 'R1002', 370)
into dish_restaurant values ('CHKMO', 'R1003', 395)
into dish_restaurant values ('MIXCHT', 'R1001', 470)
into dish_restaurant values ('MIXCHT', 'R1002', 455)
into dish_restaurant values ('MIXCHT', 'R1003', 460)
into dish_restaurant values ('VEGPAS', 'R1004', 150)
into dish_restaurant values ('VEGPAS', 'R1005', 155)
into dish_restaurant values ('VEGPAS', 'R1006', 135)
into dish_restaurant values ('BUFCH', 'R1004', 140)
into dish_restaurant values ('BUFCH', 'R1005', 150)
into dish_restaurant values ('MIXPIZ', 'R1006', 325)
into dish_restaurant values ('MIXPIZ', 'R1007', 325)
into dish_restaurant values ('CHKSHA', 'R1007', 70)
into dish_restaurant values ('CHKSHA', 'R1008', 65)
into dish_restaurant values ('BEENAN', 'R1008', 75)
into dish_restaurant values ('BEENAN', 'R1009', 80)
into dish_restaurant values ('CHKTHA', 'R1009', 335)
into dish_restaurant values ('CHKTHA', 'R1010', 400)
into dish_restaurant values ('MASDOS', 'R1001', 250)
into dish_restaurant values ('MASDOS', 'R1010', 260)
into dish_restaurant values ('CHKCHI', 'R1009', 300)
into dish_restaurant values ('CHKCHI', 'R1010', 310)
select * from dual;

```

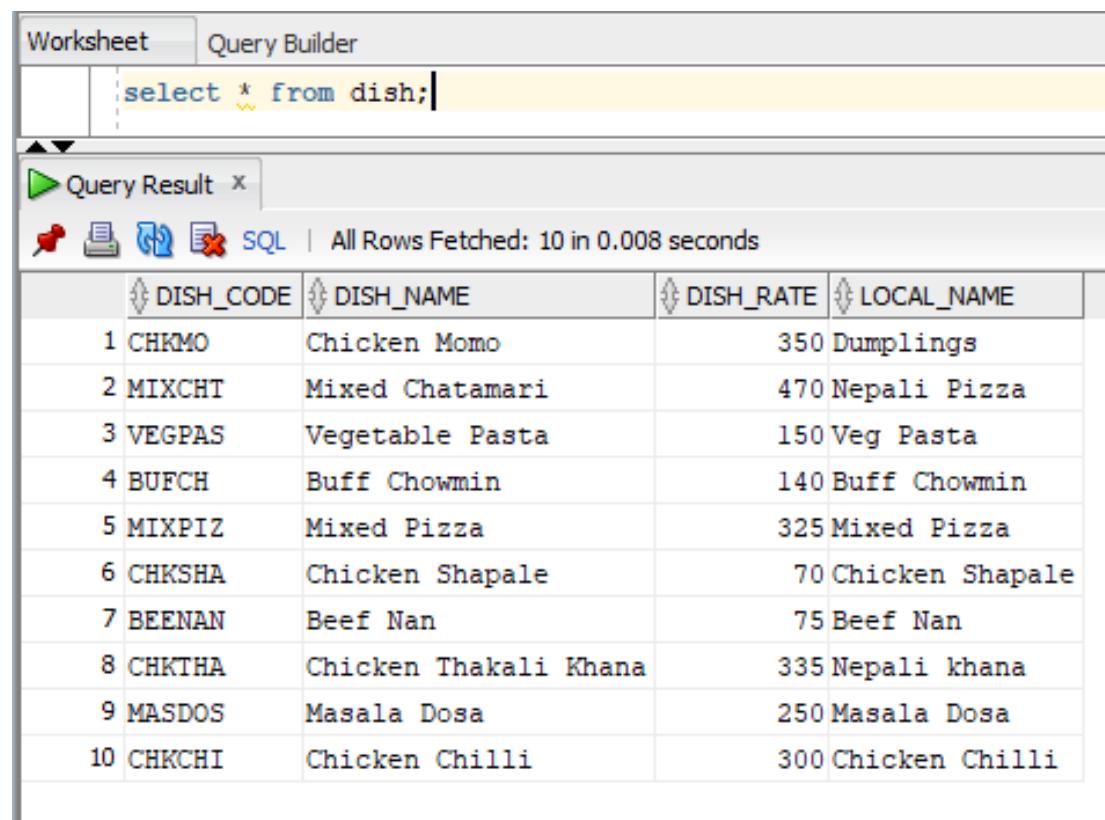
The bottom panel shows the 'Query Result' tab is active, displaying the message '23 rows inserted.' and a note 'Task completed in 0.061 seconds'. There are also icons for running, saving, and printing.

Figure 26: Inserting data in dish\_restaurant table

(javatpoint, n.d.)

### 5.3 Contents of all database tables

#### 1. Displaying data of table: dish

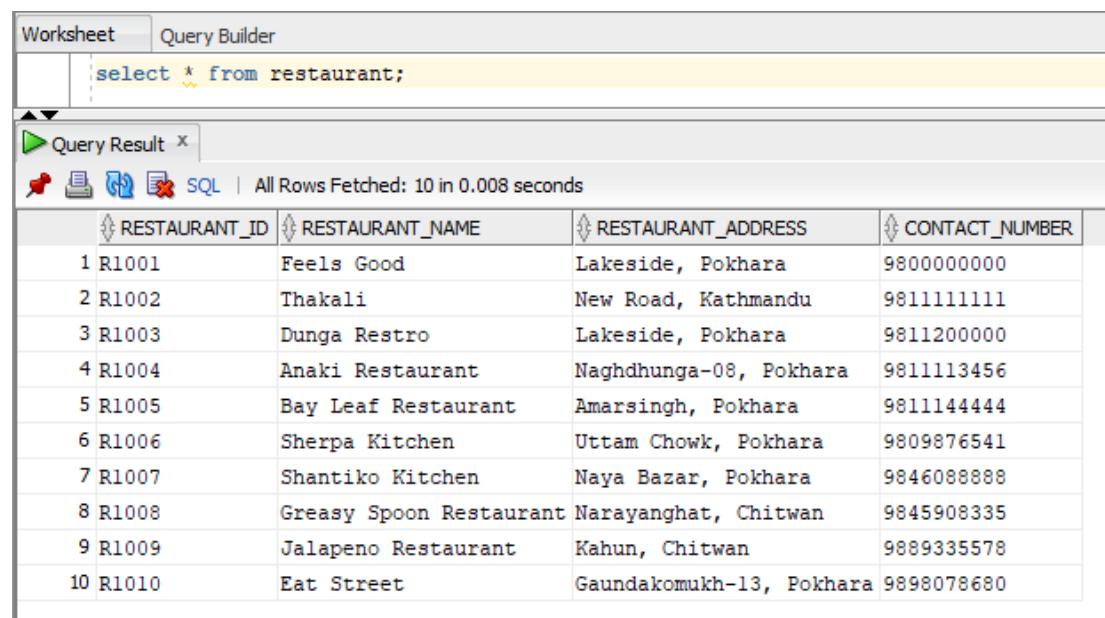


The screenshot shows the Oracle SQL Developer interface. The 'Worksheet' tab is active, displaying the SQL query: 'select \* from dish;'. Below it, the 'Query Result' tab shows the execution results. The results are presented in a table with four columns: DISH\_CODE, DISH\_NAME, DISH\_RATE, and LOCAL\_NAME. The data consists of 10 rows, each representing a different dish with its code, name, rate, and local name.

DISH_CODE	DISH_NAME	DISH_RATE	LOCAL_NAME
1	CHKMO	350	Dumplings
2	MIXCHT	470	Nepali Pizza
3	VEGPAS	150	Veg Pasta
4	BUFCH	140	Buff Chowmin
5	MIXPIZ	325	Mixed Pizza
6	CHKSHA	70	Chicken Shapale
7	BEENAN	75	Beef Nan
8	CHKTHA	335	Nepali khana
9	MASDOS	250	Masala Dosa
10	CHKCHI	300	Chicken Chilli

Figure 27: Displaying data of dish table

#### 2. Displaying data of table: restaurant

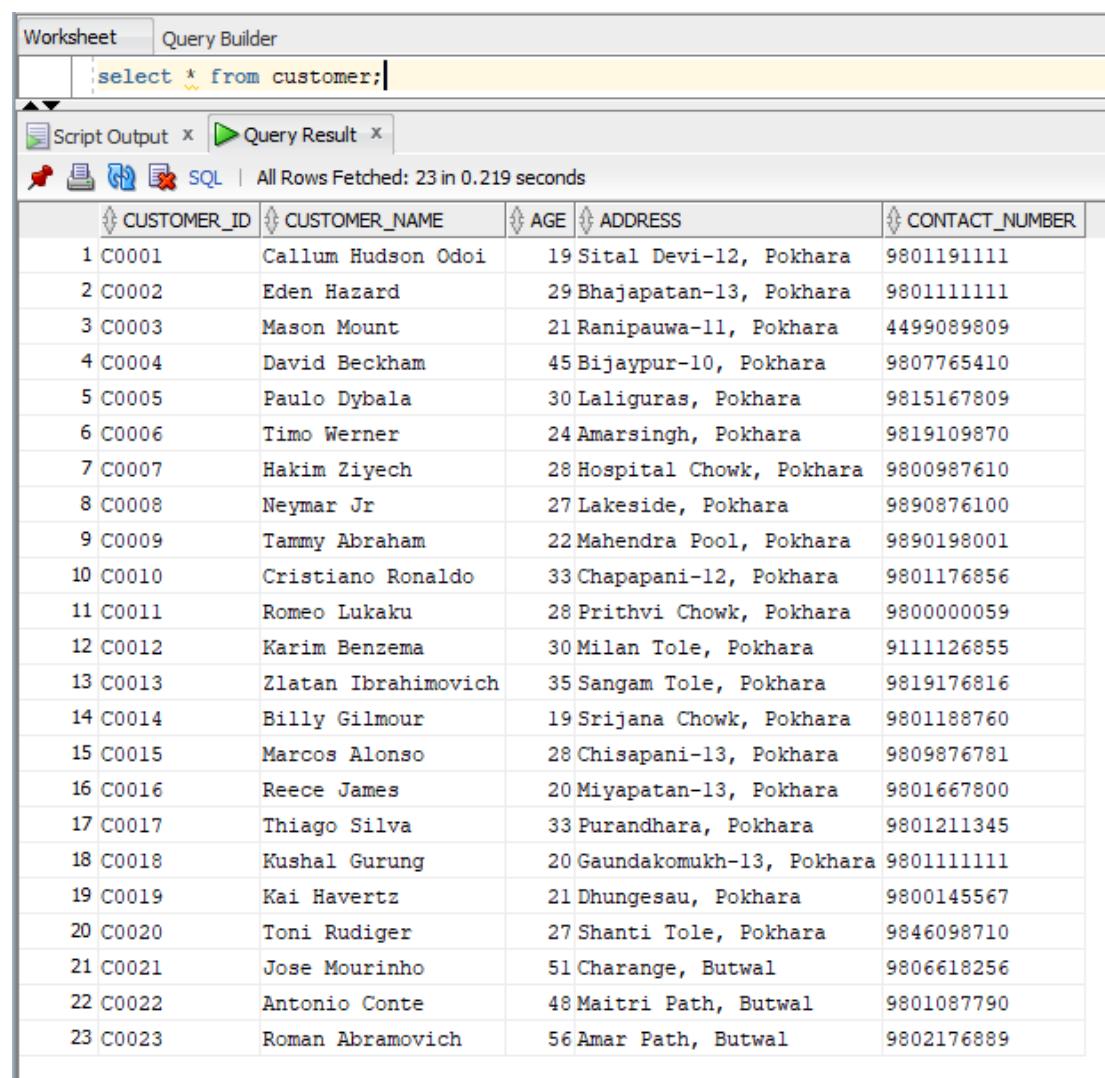


The screenshot shows the Oracle SQL Developer interface. The 'Worksheet' tab is active, displaying the SQL query: 'select \* from restaurant;'. Below it, the 'Query Result' tab shows the execution results. The results are presented in a table with four columns: RESTAURANT\_ID, RESTAURANT\_NAME, RESTAURANT\_ADDRESS, and CONTACT\_NUMBER. The data consists of 10 rows, each representing a different restaurant with its ID, name, address, and contact number.

RESTAURANT_ID	RESTAURANT_NAME	RESTAURANT_ADDRESS	CONTACT_NUMBER
1 R1001	Feels Good	Lakeside, Pokhara	9800000000
2 R1002	Thakali	New Road, Kathmandu	9811111111
3 R1003	Dunga Restro	Lakeside, Pokhara	9811200000
4 R1004	Anaki Restaurant	Naghdhunga-08, Pokhara	9811113456
5 R1005	Bay Leaf Restaurant	Amarsingh, Pokhara	9811114444
6 R1006	Sherpa Kitchen	Uttam Chowk, Pokhara	9809876541
7 R1007	Shantiko Kitchen	Naya Bazar, Pokhara	9846088888
8 R1008	Greasy Spoon Restaurant	Narayanghat, Chitwan	9845908335
9 R1009	Jalapeno Restaurant	Kahun, Chitwan	9889335578
10 R1010	Eat Street	Gaundakomukh-13, Pokhara	9898078680

Figure 28: Displaying data of restaurant table

### 3. Displaying data of table: customer

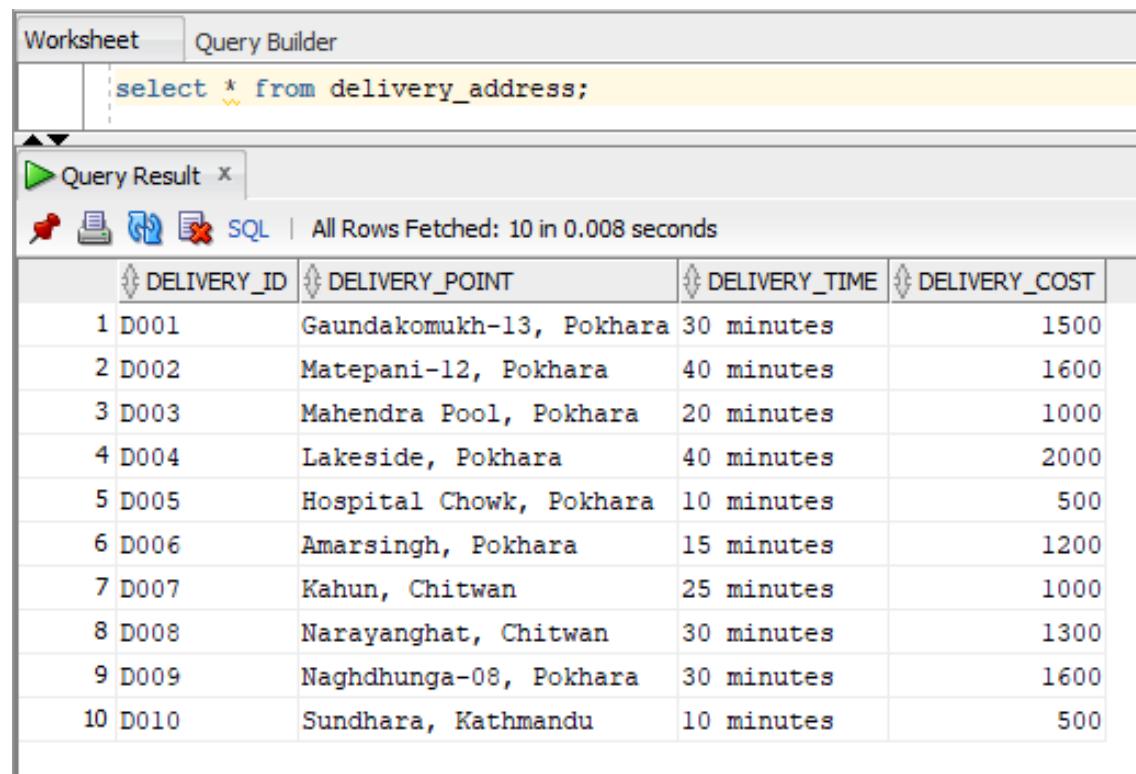


The screenshot shows the Oracle SQL Developer interface. In the top-left corner, there are tabs for 'Worksheet' and 'Query Builder'. Below them, a code editor window contains the SQL command: 'select \* from customer;'. To the right of the code editor is a toolbar with icons for 'Script Output' (highlighted in blue), 'Query Result' (highlighted in green), and other database operations like 'Edit', 'Run', and 'Stop'. A status bar at the bottom of the toolbar indicates 'All Rows Fetched: 23 in 0.219 seconds'. The main area of the interface is a large table titled 'Query Result' which displays the results of the query. The table has four columns: 'CUSTOMER\_ID', 'CUSTOMER\_NAME', 'AGE', and 'ADDRESS'. The data consists of 23 rows, each representing a customer with a unique ID, name, age, and address.

	CUSTOMER_ID	CUSTOMER_NAME	AGE	ADDRESS	CONTACT_NUMBER
1	C0001	Callum Hudson Odoi	19	Sital Devi-12, Pokhara	9801191111
2	C0002	Eden Hazard	29	Bhajapatan-13, Pokhara	9801111111
3	C0003	Mason Mount	21	Ranipauwa-11, Pokhara	4499089809
4	C0004	David Beckham	45	Bijaypur-10, Pokhara	9807765410
5	C0005	Paulo Dybala	30	Laliguras, Pokhara	9815167809
6	C0006	Timo Werner	24	Amarsingh, Pokhara	9819109870
7	C0007	Hakim Ziyech	28	Hospital Chowk, Pokhara	9800987610
8	C0008	Neymar Jr	27	Lakeside, Pokhara	9890876100
9	C0009	Tammy Abraham	22	Mahendra Pool, Pokhara	9890198001
10	C0010	Cristiano Ronaldo	33	Chapapani-12, Pokhara	9801176856
11	C0011	Romeo Lukaku	28	Prithvi Chowk, Pokhara	9800000059
12	C0012	Karim Benzema	30	Milan Tole, Pokhara	9111126855
13	C0013	Zlatan Ibrahimovich	35	Sangam Tole, Pokhara	9819176816
14	C0014	Billy Gilmour	19	Srijana Chowk, Pokhara	9801188760
15	C0015	Marcos Alonso	28	Chisapani-13, Pokhara	9809876781
16	C0016	Reece James	20	Miyapatan-13, Pokhara	9801667800
17	C0017	Thiago Silva	33	Purandhara, Pokhara	9801211345
18	C0018	Kushal Gurung	20	Gaundakomukh-13, Pokhara	9801111111
19	C0019	Kai Havertz	21	Dhungesau, Pokhara	9800145567
20	C0020	Toni Rudiger	27	Shanti Tole, Pokhara	9846098710
21	C0021	Jose Mourinho	51	Charange, Butwal	9806618256
22	C0022	Antonio Conte	48	Maitri Path, Butwal	9801087790
23	C0023	Roman Abramovich	56	Amar Path, Butwal	9802176889

Figure 29: Displaying data of customer table

#### 4. Displaying data of table: delivery\_address

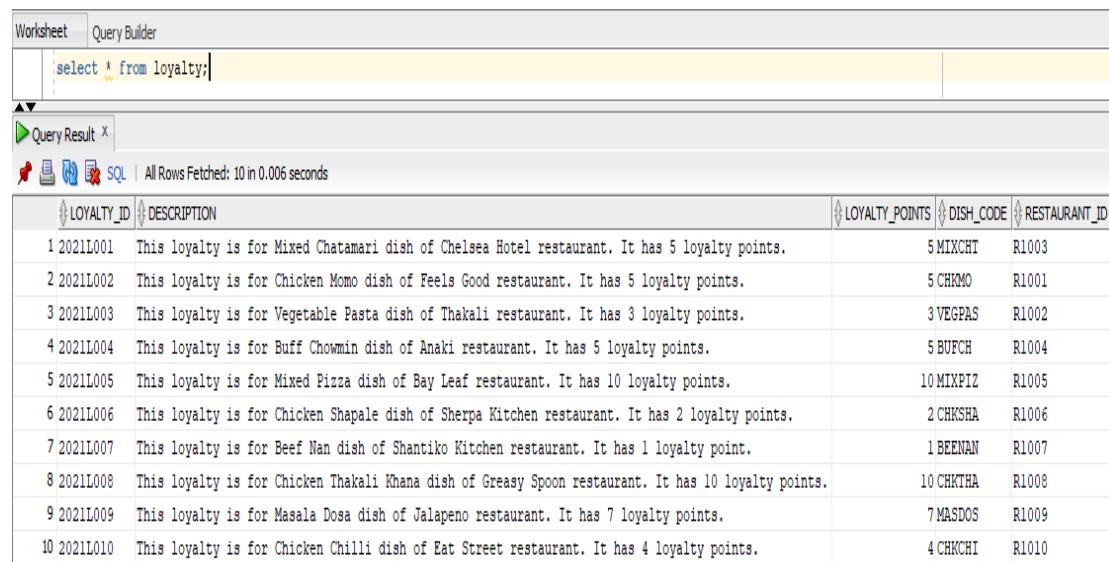


The screenshot shows the Oracle SQL Developer interface. The 'Worksheet' tab is active, displaying the SQL query: 'select \* from delivery\_address;'. Below the query, the 'Query Result' tab is open, showing the results of the executed query. The results are presented in a table with columns: DELIVERY\_ID, DELIVERY\_POINT, DELIVERY\_TIME, and DELIVERY\_COST. The data consists of 10 rows, each representing a delivery point with its details and cost.

	DELIVERY_ID	DELIVERY_POINT	DELIVERY_TIME	DELIVERY_COST
1	D001	Gaundakomukh-13, Pokhara	30 minutes	1500
2	D002	Matepani-12, Pokhara	40 minutes	1600
3	D003	Mahendra Pool, Pokhara	20 minutes	1000
4	D004	Lakeside, Pokhara	40 minutes	2000
5	D005	Hospital Chowk, Pokhara	10 minutes	500
6	D006	Amarsingh, Pokhara	15 minutes	1200
7	D007	Kahun, Chitwan	25 minutes	1000
8	D008	Narayanghat, Chitwan	30 minutes	1300
9	D009	Naghdhunga-08, Pokhara	30 minutes	1600
10	D010	Sundhara, Kathmandu	10 minutes	500

Figure 30: Displaying data of delivery\_address table

#### 5. Displaying data of table: loyalty



The screenshot shows the Oracle SQL Developer interface. The 'Worksheet' tab is active, displaying the SQL query: 'select \* from loyalty;'. Below the query, the 'Query Result' tab is open, showing the results of the executed query. The results are presented in a table with columns: LOYALTY\_ID, DESCRIPTION, LOYALTY\_POINTS, DISH\_CODE, and RESTAURANT\_ID. The data consists of 10 rows, each describing a loyalty offer associated with a specific dish and restaurant.

	LOYALTY_ID	DESCRIPTION	LOYALTY_POINTS	DISH_CODE	RESTAURANT_ID
1	2021L001	This loyalty is for Mixed Chatamari dish of Chelsea Hotel restaurant. It has 5 loyalty points.	5	MIXCHT	R1003
2	2021L002	This loyalty is for Chicken Momo dish of Feels Good restaurant. It has 5 loyalty points.	5	CHKM0	R1001
3	2021L003	This loyalty is for Vegetable Pasta dish of Thakali restaurant. It has 3 loyalty points.	3	VEGPAS	R1002
4	2021L004	This loyalty is for Buff Chowmin dish of Anaki restaurant. It has 5 loyalty points.	5	BUPCH	R1004
5	2021L005	This loyalty is for Mixed Pizza dish of Bay Leaf restaurant. It has 10 loyalty points.	10	MIXPIZ	R1005
6	2021L006	This loyalty is for Chicken Shapale dish of Sherpa Kitchen restaurant. It has 2 loyalty points.	2	CHKNSHA	R1006
7	2021L007	This loyalty is for Beef Nan dish of Shantiko Kitchen restaurant. It has 1 loyalty point.	1	BEENAN	R1007
8	2021L008	This loyalty is for Chicken Thakali Khana dish of Greasy Spoon restaurant. It has 10 loyalty points.	10	CHKTHA	R1008
9	2021L009	This loyalty is for Masala Dosa dish of Jalapeno restaurant. It has 7 loyalty points.	7	MASDOS	R1009
10	2021L010	This loyalty is for Chicken Chilli dish of Eat Street restaurant. It has 4 loyalty points.	4	CHKCHI	R1010

Figure 31: Displaying data of loyalty table

## 6. Displaying data of table: order\_details

Worksheet    Query Builder

```
select * from order_details;
```

Script Output x    Query Result x

SQL | All Rows Fetched: 23 in 0.041 seconds

	ORDER_NUMBER	SN	ORDER_DATE	ORDER_AMOUNT	CUSTOMER_ID	DELIVERY_ID	DISH_CODE	RESTAURANT_ID	STATUS
1	09-00232	2020-11-223312	12-NOV-20	1700 C0001	D002	CHKMO	R1001	On Time	
2	09-00233	2020-11-223313	12-NOV-20	750 C0002	D001	MIXCHT	R1002	Early	
3	09-00234	2020-11-223314	13-NOV-20	500 C0003	D004	BEENAN	R1003	Late	
4	09-00235	2020-11-223315	15-NOV-20	900 C0004	D003	BUFCH	R1004	On Time	
5	09-00236	2020-11-223316	16-NOV-20	700 C0005	D006	CHKCHI	R1005	On Time	
6	09-00237	2020-11-223317	16-NOV-20	610 C0006	D005	CHKSHA	R1006	On Time	
7	09-00238	2020-11-223318	16-NOV-20	1010 C0007	D008	CHKTHA	R1007	Late	
8	09-00239	2020-12-223319	10-DEC-20	490 C0008	D007	MASDOS	R1008	On Time	
9	09-00240	2020-12-223320	11-DEC-20	740 C0009	D010	MIXPIZ	R1009	On Time	
10	09-00241	2020-12-223321	24-DEC-20	940 C0010	D009	VEGPAS	R1010	On Time	
11	09-00242	2020-11-223322	24-DEC-20	700 C0011	D002	CHKMO	R1010	On Time	
12	09-00243	2020-11-223323	24-DEC-20	900 C0012	D003	BUFCH	R1010	On Time	
13	09-00244	2020-11-223324	24-DEC-20	900 C0013	D006	VEGPAS	R1009	On Time	
14	09-00245	2020-11-223325	26-DEC-20	1200 C0014	D006	CHKMO	R1009	On Time	
15	09-00246	2020-11-223326	26-DEC-20	300 C0015	D007	CHKMO	R1007	On Time	
16	09-00247	2020-11-223327	24-DEC-20	550 C0016	D002	MIXCHT	R1007	On Time	
17	09-00248	2020-11-223328	24-DEC-20	725 C0017	D005	CHKTHA	R1001	On Time	
18	09-00249	2020-11-223329	25-DEC-20	325 C0018	D006	CHKSHA	R1006	Late	
19	09-00250	2020-11-223330	25-DEC-20	450 C0019	D007	MIXPIZ	R1006	Late	
20	09-00251	2020-11-223331	25-DEC-20	330 C0020	D008	VEGPAS	R1006	On Time	
21	09-00252	2020-11-223332	26-DEC-20	570 C0021	D003	MIXCHT	R1006	On Time	
22	09-00253	2020-11-223333	26-DEC-20	225 C0022	D005	BUFCH	R1006	On Time	
23	09-00254	2020-11-223334	26-DEC-20	325 C0023	D007	MIXCHT	R1009	On Time	

Figure 32: Displaying data of order\_details table

## 7. Displaying data of table: dish\_restaurant

The screenshot shows the Oracle SQL Developer interface. The top bar has tabs for 'Worksheet' and 'Query Builder', with 'Worksheet' selected. Below the tabs is a code editor containing the SQL query: 'select \* from dish\_restaurant;'. The main area is titled 'Query Result' and displays the results of the executed query. The results are presented in a table with three columns: 'DISH\_CODE', 'RESTAURANT\_ID', and 'DISH\_RATE'. The data consists of 23 rows, each representing a dish with its code, restaurant ID, and rate.

	DISH_CODE	RESTAURANT_ID	DISH_RATE
1	CHKMO	R1001	350
2	CHKMO	R1002	370
3	CHKMO	R1003	395
4	MIXCHI	R1001	470
5	MIXCHI	R1002	455
6	MIXCHI	R1003	460
7	VEGPAS	R1004	150
8	VEGPAS	R1005	155
9	VEGPAS	R1006	135
10	BUFCH	R1004	140
11	BUFCH	R1005	150
12	MIXPIZ	R1006	325
13	MIXPIZ	R1007	325
14	CHKSHA	R1007	70
15	CHKSHA	R1008	65
16	BEENAN	R1008	75
17	BEENAN	R1009	80
18	CHKTHA	R1009	335
19	CHKTHA	R1010	400
20	MASDOS	R1001	250
21	MASDOS	R1010	260
22	CHKCHI	R1009	300
23	CHKCHI	R1010	310

Figure 33: Displaying data of dish\_restaurant table

## 6. Implementation of Web-based Database Application

### 6.1 Home webform

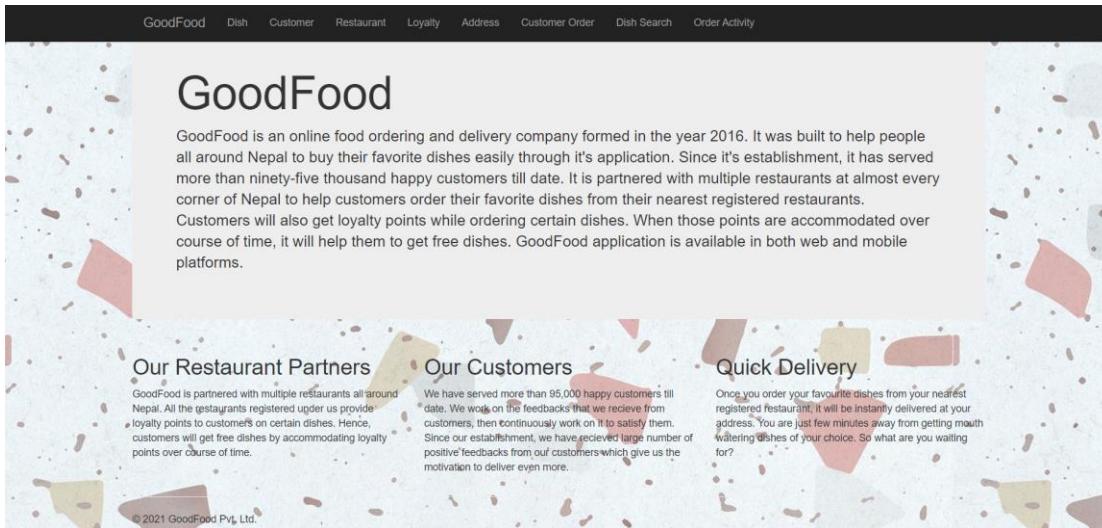


Figure 34: Home webform

### 6.2 Dish Details webform

	DISH CODE	DISH NAME	DISH RATE	LOCAL NAME
Edit	CHKMO	Chicken Momo	350	Dumplings
Delete	MIXCHT	Mixed Chatamari	470	Nepali Pizza
Edit	VEGPAS	Vegetable Pasta	150	Veg Pasta
Delete	BUFCHE	Buff Chowmin	140	Buff Chowmin
Edit	MIXPIZ	Mixed Pizza	325	Mixed Pizza
Delete	CHKSHA	Chicken Shapale	70	Chicken Shapale
Edit	BEENAN	Beef Nan	75	Beef Nan
Delete	CHKTHA	Chicken Thakali Khana	335	Nepali khana
Edit	MASDOS	Masala Dosa	250	Masala Dosa
Delete	CHKCHI	Chicken Chilli	300	Chicken Chilli

Figure 35: Dish Details webform

- ❖ Query for inserting data through “Save” button

```
"INSERT into dish (dish_code, dish_name, dish_rate, local_name) values('" +
txtDishCode.Text + "','" + txtDishName.Text + "','" + txtDishRate.Text + "','" +
txtLocalName.Text + "')";
```

❖ Select query

**SELECT UPDATE INSERT DELETE**

SQL statement:

```
SELECT DISH_CODE, DISH_NAME, DISH_RATE, LOCAL_NAME FROM DISH
```

Figure 36: Select query for Dish Details webform

❖ Update query

**SELECT UPDATE INSERT DELETE**

SQL statement:

```
UPDATE DISH SET DISH_NAME = :dish_name, DISH_RATE = :dish_rate, LOCAL_NAME = :local_name WHERE (DISH_CODE = :dish_code)
```

Figure 37: Update query for Dish Details webform

❖ Delete query

**SELECT UPDATE INSERT DELETE**

SQL statement:

```
DELETE FROM DISH WHERE (DISH_CODE = :dish_code)
```

Figure 38: Delete query for Dish Details webform

### 6.3 Customer Details webform

The screenshot shows a web-based application for managing customer details. At the top, there is a navigation bar with links: GoodFood, Dish, Customer, Restaurant, Loyalty, Address, Customer Order, Dish Search, and Order Activity. Below the navigation bar, there are input fields for Customer ID, Customer Name, Age, and Address, along with a Save button. A table titled "Customer Details" lists 23 customer entries. Each entry includes columns for Customer ID, Customer Name, Age, Address, and Contact Number. The table has a yellow header row and a yellow footer row. Each data row contains a "Edit/Delete" link. The footer of the page includes a copyright notice: "© 2021 GoodFood Pvt. Ltd."

	CUSTOMER ID	CUSTOMER NAME	AGE	ADDRESS	CONTACT NUMBER
<a href="#">Edit</a> <a href="#">Delete</a>	C0001	Callum Hudson Odol	19	Sital Devi-12, Pokhara	9801191111
<a href="#">Edit</a> <a href="#">Delete</a>	C0002	Eden Hazard	29	Bhajapatan-13, Pokhara	9801111111
<a href="#">Edit</a> <a href="#">Delete</a>	C0003	Mason Mount	21	Ranipaws-11, Pokhara	4499089809
<a href="#">Edit</a> <a href="#">Delete</a>	C0004	David Beckham	45	Bijaypur-10, Pokhara	9807765410
<a href="#">Edit</a> <a href="#">Delete</a>	C0005	Paulo Dybala	30	Laliguras, Pokhara	9815167809
<a href="#">Edit</a> <a href="#">Delete</a>	C0006	Timo Werner	24	Amarsingh, Pokhara	9819109870
<a href="#">Edit</a> <a href="#">Delete</a>	C0007	Hakim Ziyech	28	Hospital Chowk, Pokhara	9800987610
<a href="#">Edit</a> <a href="#">Delete</a>	C0008	Neymar Jr	27	Lakeside, Pokhara	9890878100
<a href="#">Edit</a> <a href="#">Delete</a>	C0009	Tammy Abraham	22	Mahendra Pool, Pokhara	9890198001
<a href="#">Edit</a> <a href="#">Delete</a>	C0010	Cristiano Ronaldo	33	Chapapani-12, Pokhara	9801176856
<a href="#">Edit</a> <a href="#">Delete</a>	C0011	Romeo Lukaku	28	Pritivi Chowk, Pokhara	9800000059
<a href="#">Edit</a> <a href="#">Delete</a>	C0012	Karim Benzema	30	Milan Tole, Pokhara	9111126855
<a href="#">Edit</a> <a href="#">Delete</a>	C0013	Zlatan Ibrahimovich	35	Sangam Tole, Pokhara	9819176816
<a href="#">Edit</a> <a href="#">Delete</a>	C0014	Billy Gilmour	19	Srijana Chowk, Pokhara	9801188760
<a href="#">Edit</a> <a href="#">Delete</a>	C0015	Marcos Alonso	28	Chisapani-13, Pokhara	9809876781
<a href="#">Edit</a> <a href="#">Delete</a>	C0016	Reece James	20	Miyapatan-13, Pokhara	9801667800
<a href="#">Edit</a> <a href="#">Delete</a>	C0017	Thiago Silva	33	Purandhara, Pokhara	9801211345
<a href="#">Edit</a> <a href="#">Delete</a>	C0018	Kushal Gurung	20	Gaudakomukh-13, Pokhara	9801111111
<a href="#">Edit</a> <a href="#">Delete</a>	C0019	Kai Havertz	21	Dhungepal, Pokhara	9800145567
<a href="#">Edit</a> <a href="#">Delete</a>	C0020	Toni Rudiger	27	Shanti Tole, Pokhara	9846098710
<a href="#">Edit</a> <a href="#">Delete</a>	C0021	José Mourinho	51	Charange, Butwal	9806182526
<a href="#">Edit</a> <a href="#">Delete</a>	C0022	Antonio Conte	48	Matri Path, Butwal	9801087790
<a href="#">Edit</a> <a href="#">Delete</a>	C0023	Roman Abramovich	56	Amar Path, Butwal	9802176889

Figure 39: Customer Details webform

❖ Query for inserting data through “Save” button

```
"INSERT into customer (customer_id, customer_name, age, address,
contact_number) values('" + customerIDTextBox.Text + "','" +
customerNameTextBox.Text + "','" + ageTextBox.Text + "','" +
addressTextBox.Text + "','" + contactNumberTextBox.Text + "')";
```

❖ Select query

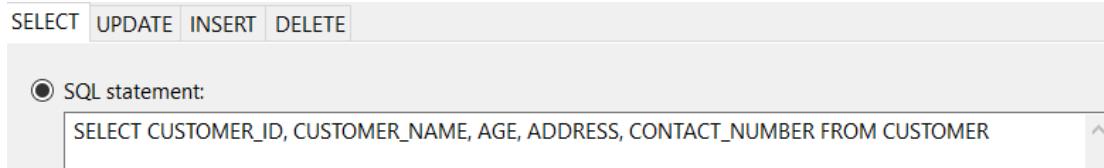


Figure 40: Select query for Customer Details webform

❖ Update query

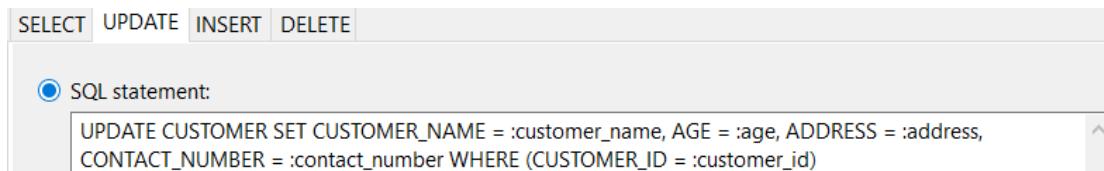


Figure 41: Update query for Customer Details webform

❖ Delete query

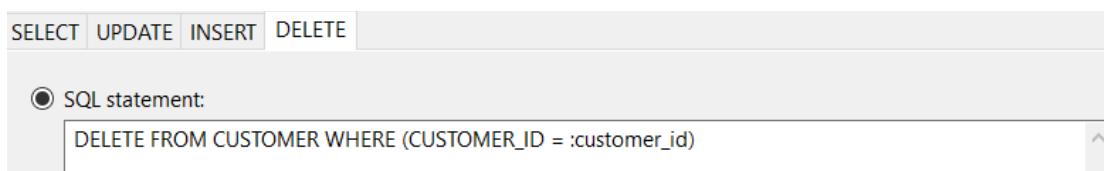


Figure 42: Delete query for Customer Details webform

## 6.4 Restaurant Details webform

The screenshot shows a web-based application for managing restaurant details. At the top, there is a navigation bar with links: GoodFood, Dish, Customer, Restaurant, Loyalty, Address, Customer Order, Dish Search, and Order Activity. Below the navigation bar, there is a form with four input fields: Restaurant ID, Restaurant Name, Address, and Contact Number. A green "SAVE" button is located below these fields. To the right of the form is a table titled "Restaurant Details" with 10 rows of data. The table has columns: RESTAURANT\_ID, RESTAURANT\_NAME, RESTAURANT\_ADDRESS, and CONTACT\_NUMBER. The data in the table is as follows:

	RESTAURANT_ID	RESTAURANT_NAME	RESTAURANT_ADDRESS	CONTACT_NUMBER
Edit Delete	R1001	Feels Good	Lakeside, Pokhara	9800000000
Edit Delete	R1002	Thakali	New Road, Kathmandu	9811111111
Edit Delete	R1003	Dunga Restro	Lakeside, Pokhara	9811200000
Edit Delete	R1004	Anaki Restaurant	Naghohunga-08, Pokhara	9811113456
Edit Delete	R1005	Bay Leaf Restaurant	Amarsingh, Pokhara	9811144444
Edit Delete	R1006	Sherpa Kitchen	Uttam Chowk, Pokhara	9809876541
Edit Delete	R1007	Shantiko Kitchen	Naya Bazar, Pokhara	9846088888
Edit Delete	R1008	Greasy Spoon Restaurant	Narayanghat, Chitwan	9845908335
Edit Delete	R1009	Jalapeno Restaurant	Kahun, Chitwan	9889335578
Edit Delete	R1010	Eat Street	Gaudakomukh-13, Pokhara	9898078680

At the bottom left, there is a copyright notice: © 2021 GoodFood Pvt. Ltd.

Figure 43: Restaurant Details webform

- ❖ Query for inserting data through “Save” button

```
"INSERT into restaurant (restaurant_id, restaurant_name, restaurant_address,
contact_number) values('" + restaurant_idTextBox.Text + "', '" +
restaurant_nameTextBox.Text + "','" + addressTextBox.Text + "','" +
contactNumberTextBox.Text + "')";
```

- ❖ Select query

The screenshot shows a query builder interface. At the top, there are buttons for SELECT, UPDATE, INSERT, and DELETE. The SELECT button is highlighted. Below the buttons, there is a radio button labeled "SQL statement:" followed by a text input field containing the SQL query:

```
SELECT RESTAURANT_ID, RESTAURANT_NAME, RESTAURANT_ADDRESS, CONTACT_NUMBER FROM
RESTAURANT
```

Figure 44: Select query for Restaurant Details webform

- ❖ Update query

The screenshot shows a query builder interface. At the top, there are buttons for SELECT, UPDATE, INSERT, and DELETE. The UPDATE button is highlighted. Below the buttons, there is a radio button labeled "SQL statement:" followed by a text input field containing the SQL query:

```
UPDATE RESTAURANT SET RESTAURANT_NAME = :restaurant_name, RESTAURANT_ADDRESS =
:restaurant_address, CONTACT_NUMBER = :contact_number WHERE (RESTAURANT_ID = :restaurant_id)
```

Figure 45: Update query for Restaurant Details webform

❖ Delete query

SELECT UPDATE INSERT DELETE

SQL statement:

```
DELETE FROM RESTAURANT WHERE (RESTAURANT_ID = :restaurant_id)
```

Figure 46: Delete query for Restaurant Details webform

## 6.5 Loyalty Points webform

The screenshot shows a web-based application for managing loyalty points. At the top, there's a navigation bar with links: GoodFood, Dish, Customer, Restaurant, Loyalty, Address, Customer Order, Dish Search, and Order Activity. Below the navigation, there are several input fields: Loyalty ID (text box), Description (text area), Loyalty Points (text box), Dish Code (text box), and Restaurant ID (text box). A green "Save" button is located below these fields. To the right, there's a large grid titled "Loyalty Details" with columns: LOYALTY\_ID, DESCRIPTION, LOYALTY\_POINTS, DISH\_CODE, and RESTAURANT\_ID. The grid contains 10 rows of data, each with an "Edit" link and a "Delete" link. The data in the grid is as follows:

	LOYALTY_ID	DESCRIPTION	LOYALTY_POINTS	DISH_CODE	RESTAURANT_ID
Edit	2021L001	This loyalty is for Mixed Chatamari dish of Dunga Restro restaurant. It has 5 loyalty points.	5	MIXCHT	R1003
Edit	2021L002	This loyalty is for Chicken Momo dish of Feels Good restaurant. It has 5 loyalty points.	5	CHKMO	R1001
Edit	2021L003	This loyalty is for Vegetable Pasta dish of Thakali restaurant. It has 3 loyalty points.	3	VEGPAS	R1002
Edit	2021L004	This loyalty is for Buff Chowmin dish of Anaki restaurant. It has 5 loyalty points.	5	BUFCB	R1004
Edit	2021L005	This loyalty is for Mixed Pizza dish of Bay Leaf restaurant. It has 10 loyalty points.	10	MIXPIZ	R1005
Edit	2021L006	This loyalty is for Chicken Shapale dish of Sherpa Kitchen restaurant. It has 2 loyalty points.	2	CHKSHA	R1006
Edit	2021L007	This loyalty is for Beef Nan dish of Shantiko Kitchen restaurant. It has 1 loyalty point.	1	BEENAN	R1007
Edit	2021L008	This loyalty is for Chicken Thakali Khan dish of Greasy Spoon restaurant. It has 10 loyalty points.	10	CHKTHA	R1008
Edit	2021L009	This loyalty is for Masala Dosa dish of Jalapeno restaurant. It has 7 loyalty points.	7	MASDOS	R1009
Edit	2021L010	This loyalty is for Chicken Chilli dish of Eat Street restaurant. It has 4 loyalty points.	4	CHKCHI	R1010

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Figure 47: Loyalty Points webform

❖ Query for inserting data through “Save” button

```
"INSERT into loyalty (loyalty_id, description, loyalty_points, dish_code,
restaurant_id) values(" + txtLoyaltyID.Text + ", " + txtDescription.Text +
", " + txtLoyaltyPoints.Text + ", " + txtDishCode.Text + ", " +
txtRestaurantID.Text + ")";
```

❖ Select query

SELECT UPDATE INSERT DELETE

SQL statement:

```
SELECT LOYALTY_ID, DESCRIPTION, LOYALTY_POINTS, DISH_CODE, RESTAURANT_ID FROM LOYALTY
```

Figure 48: Select query for Loyalty Points webform

❖ Update query

The screenshot shows a web-based SQL editor interface. At the top, there are four tabs: SELECT, UPDATE, INSERT, and DELETE. The UPDATE tab is selected. Below the tabs, a radio button labeled "SQL statement:" is selected. The main area contains the following SQL code:

```
UPDATE LOYALTY SET DESCRIPTION = :description, LOYALTY_POINTS = :loyalty_points, DISH_CODE =
:dish_code, RESTAURANT_ID = :restaurant_id WHERE (LOYALTY_ID = :loyalty_id)
```

Figure 49: Update query for Loyalty Points webform

❖ Delete query

The screenshot shows a web-based SQL editor interface. At the top, there are four tabs: SELECT, UPDATE, INSERT, and DELETE. The DELETE tab is selected. Below the tabs, a radio button labeled "SQL statement:" is selected. The main area contains the following SQL code:

```
DELETE FROM LOYALTY WHERE (LOYALTY_ID = :loyalty_id)
```

Figure 50: Delete query for Loyalty Points webform

## 6.6 Delivery Address Details webform

The screenshot shows a web-based form titled "Delivery Address Details". At the top, there is a navigation bar with links: GoodFood, Dish, Customer, Restaurant, Loyalty, Address, Customer Order, Dish Search, and Order Activity. Below the navigation bar, there are four input fields with labels: "Delivery ID", "Delivery Point", "Delivery Time", and "Delivery Cost". A green "Save" button is located below these fields. At the bottom of the form, there is a table titled "Delivery Address Details" with the following data:

	DELIVERY ID	DELIVERY POINT	DELIVERY TIME	DELIVERY COST
Edit	D001	Gaundakomukh-13, Pokhara	30 minutes	1500
Delete	D002	Matepani-12, Pokhara	40 minutes	1600
Edit	D003	Mahendra Pool, Pokhara	20 minutes	1000
Delete	D004	Lakeside, Pokhara	40 minutes	2000
Edit	D005	Hospital Chowk, Pokhara	10 minutes	500
Delete	D006	Amarsingh, Pokhara	15 minutes	1200
Edit	D007	Kahun, Chitwan	25 minutes	1000
Delete	D008	Narayanghat, Chitwan	30 minutes	1300
Edit	D009	Naghdhunga-08, Pokhara	30 minutes	1600
Delete	D010	Sundhara, Kathmandu	10 minutes	500

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Figure 51: Delivery Address Details webform

❖ Query for inserting data through “Save” button

```
"INSERT into delivery_address (delivery_id, delivery_point, delivery_time,
delivery_cost) values('" + txtDeliveryID.Text + "','" + txtDeliveryPoint.Text +
"', '" + txtDeliveryTime.Text + "','" + txtDeliveryCost.Text + "')";
```

❖ Select query

SELECT UPDATE INSERT DELETE

SQL statement:

```
SELECT DELIVERY_ID, DELIVERY_POINT, DELIVERY_TIME, DELIVERY_COST FROM DELIVERY_ADDRESS
```

Figure 52: Select query for Delivery Address Details webform

❖ Update query

SELECT UPDATE INSERT DELETE

SQL statement:

```
UPDATE DELIVERY_ADDRESS SET DELIVERY_POINT = :delivery_point, DELIVERY_TIME = :delivery_time,
DELIVERY_COST = :delivery_cost WHERE (DELIVERY_ID = :delivery_id)
```

Figure 53: Update query for Delivery Address Details webform

❖ Delete query

SELECT UPDATE INSERT DELETE

SQL statement:

```
DELETE FROM DELIVERY_ADDRESS WHERE (DELIVERY_ID = :delivery_id)
```

Figure 54: Delete query for Delivery Address Details webform

## 6.7 Customer-Order Details webform

The screenshot shows a web-based application interface for managing customer orders. At the top, there is a navigation bar with links: GoodFood, Dish, Customer, Restaurant, Loyalty, Address, Customer Order, Dish Search, and Order Activity. Below the navigation bar, there are two dropdown menus: 'Customer Name' set to 'Callum Hudson Odoi' and 'Customer ID' with an empty input field. A section titled 'Order Details:' contains a table with columns: ORDER NUMBER, SN, ORDER DATE, ORDER AMOUNT, CUSTOMER ID, DELIVERY ID, DISH CODE, RESTAURANT ID, and STATUS. The table lists numerous order entries with various details like delivery times and dish codes. At the bottom of the form, there are two input fields: 'Delivery ID' and 'Delivery Point', each with a placeholder value. A green button labeled 'Get Delivery Point' is positioned between the two input fields.

ORDER NUMBER	SN	ORDER DATE	ORDER AMOUNT	CUSTOMER ID	DELIVERY ID	DISH CODE	RESTAURANT ID	STATUS
09-00232	2020-11-223312	11/12/2020 12:00:00 AM	1700	C0001	D002	CHKMO	R1001	On Time
09-00233	2020-11-223313	11/12/2020 12:00:00 AM	750	C0002	D001	MIXCHT	R1002	Early
09-00234	2020-11-223314	11/13/2020 12:00:00 AM	500	C0003	D004	BEENAN	R1003	Late
09-00235	2020-11-223315	11/15/2020 12:00:00 AM	900	C0004	D003	BUFCH	R1004	On Time
09-00236	2020-11-223316	11/16/2020 12:00:00 AM	700	C0005	D006	CHKCHI	R1005	On Time
09-00237	2020-11-223317	11/16/2020 12:00:00 AM	610	C0006	D005	CHKSHA	R1006	On Time
09-00238	2020-11-223318	11/16/2020 12:00:00 AM	1010	C0007	D008	CHKTHA	R1007	Late
09-00239	2020-12-223319	12/10/2020 12:00:00 AM	490	C0008	D007	MASDOS	R1008	On Time
09-00240	2020-12-223320	12/11/2020 12:00:00 AM	740	C0009	D010	MIXPIZ	R1009	On Time
09-00241	2020-12-223321	12/24/2020 12:00:00 AM	940	C0010	D009	VEGPAS	R1010	On Time
09-00242	2020-11-223322	12/24/2020 12:00:00 AM	700	C0011	D002	CHKMO	R1010	On Time
09-00243	2020-11-223323	12/24/2020 12:00:00 AM	900	C0012	D003	BUFCH	R1010	On Time
09-00244	2020-11-223324	12/24/2020 12:00:00 AM	900	C0013	D006	VEGPAS	R1009	On Time
09-00245	2020-11-223325	12/26/2020 12:00:00 AM	1200	C0014	D006	CHKMO	R1009	On Time
09-00246	2020-11-223326	12/26/2020 12:00:00 AM	300	C0015	D007	CHKMO	R1007	On Time
09-00247	2020-11-223327	12/24/2020 12:00:00 AM	550	C0016	D002	MIXCHT	R1007	On Time
09-00248	2020-11-223328	12/24/2020 12:00:00 AM	725	C0017	D005	CHKTHA	R1001	On Time
09-00249	2020-11-223329	12/25/2020 12:00:00 AM	325	C0018	D006	CHKSHA	R1006	Late
09-00250	2020-11-223330	12/25/2020 12:00:00 AM	450	C0019	D007	MIXPIZ	R1006	Late
09-00251	2020-11-223331	12/25/2020 12:00:00 AM	330	C0020	D008	VEGPAS	R1006	On Time
09-00252	2020-11-223332	12/25/2020 12:00:00 AM	570	C0021	D003	MIXCHT	R1006	On Time
09-00253	2020-11-223333	12/26/2020 12:00:00 AM	225	C0022	D005	BUFCH	R1008	On Time
09-00254	2020-11-22334	12/26/2020 12:00:00 AM	325	C0023	D007	MIXCHT	R1009	On Time

Figure 55: Customer-Order Details webform

- ❖ Select query of customer name drop down list

SELECT UPDATE INSERT DELETE

SQL statement:

```
SELECT CUSTOMER_ID, CUSTOMER_NAME FROM CUSTOMER
```

Figure 56: Select query of customer name drop down list

- ❖ Select query for grid view

SELECT UPDATE INSERT DELETE

SQL statement:

```
SELECT ORDER_NUMBER, SN, ORDER_DATE, ORDER_AMOUNT, CUSTOMER_ID, DELIVERY_ID, DISH_CODE, RESTAURANT_ID, STATUS FROM ORDER_DETAILS
```

Figure 57: Select query for grid view

- ❖ Select query for displaying data in grid view after selecting a customer name

```
"select * from order_details where customer_id=' " + customer_id + "';
```

- ❖ Displaying data in text boxes after clicking on “Get Delivery Point” button

```
protected void deliveryPointBtn_Click(object sender, EventArgs e)
{
    GridViewRow gridViewRow = GridView1.Rows[0];
    txtDeliveryID.Text = gridViewRow.Cells[5].Text;

    conn.Open();
    OleDbCommand cmd = new OleDbCommand("select delivery_point from delivery_address where delivery_id=' " + txtDeliveryID.Text + " ', conn");
    cmd.ExecuteNonQuery();

    OleDbDataReader dataReader;
    dataReader = cmd.ExecuteReader();
    while (dataReader.Read())
    {
        deliveryPointTextBox.Text = dataReader.GetValue(0).ToString();
    }
    conn.Close();
}
```

Figure 58: Query to display delivery point

(microsoft, n.d.)

## 6.8 Dish Search webform

The screenshot shows a web-based application interface for searching dishes. At the top, there is a navigation bar with links: GoodFood, Dish, Customer, Restaurant, Loyalty, Address, Customer Order, Dish Search, and Order Activity. Below the navigation bar, there are three input fields: 'Customer Name' (dropdown menu showing 'Callum Hudson Odoli'), 'Dish Name' (dropdown menu showing 'Chicken Momo'), and 'Dish Code' (text input field). A section titled 'Dish and Restaurant Details:' contains a table with columns: DISH\_CODE, DISH\_NAME, DISH RATE, RESTAURANT\_ID, and RESTAURANT\_NAME. The table lists various dish entries with their respective restaurant details. At the bottom left of the form, there is a copyright notice: '© 2021 GoodFood Pvt. Ltd.'.

DISH_CODE	DISH_NAME	DISH RATE	RESTAURANT_ID	RESTAURANT_NAME
CHKMO	Chicken Momo	395	R1003	Dunga Restro
CHKMO	Chicken Momo	370	R1002	Thakali
CHKMO	Chicken Momo	350	R1001	Feels Good
MIXCHT	Mixed Chatamari	460	R1003	Dunga Restro
MIXCHT	Mixed Chatamari	455	R1002	Thakali
MIXCHT	Mixed Chatamari	470	R1001	Feels Good
VEGPAS	Vegetable Pasta	135	R1006	Sherpa Kitchen
VEGPAS	Vegetable Pasta	155	R1005	Bay Leaf Restaurant
VEGPAS	Vegetable Pasta	150	R1004	Anaki Restaurant
BUFCH	Buff Chowmin	150	R1005	Bay Leaf Restaurant
BUFCH	Buff Chowmin	140	R1004	Anaki Restaurant
MIXPIZ	Mixed Pizza	325	R1007	Shantiko Kitchen
MIXPIZ	Mixed Pizza	325	R1006	Sherpa Kitchen
CHKSHA	Chicken Shapale	65	R1008	Greasy Spoon Restaurant
CHKSHA	Chicken Shapale	70	R1007	Shantiko Kitchen
BEENAN	Beef Nan	80	R1009	Jalapeno Restaurant
BEENAN	Beef Nan	75	R1008	Greasy Spoon Restaurant
CHKTHA	Chicken Thakali Khana	400	R1010	Eat Street
CHKTHA	Chicken Thakali Khana	335	R1009	Jalapeno Restaurant
MASDOS	Masala Dosa	260	R1010	Eat Street
MASDOS	Masala Dosa	250	R1001	Feels Good
CHKCHI	Chicken Chilli	310	R1010	Eat Street
CHKCHI	Chicken Chilli	300	R1009	Jalapeno Restaurant

Figure 59: Dish Search webform

- ❖ Select query for customer name drop down list

The screenshot shows a database interface with a toolbar at the top featuring buttons for SELECT, UPDATE, INSERT, and DELETE. Below the toolbar, a dropdown menu is open, labeled 'SQL statement:', containing the SQL query: 'SELECT CUSTOMER\_NAME FROM CUSTOMER'.

Figure 60: Select query for customer name drop down list

- ❖ Select query for dish name drop down list

The screenshot shows a database interface with a toolbar at the top featuring buttons for SELECT, UPDATE, INSERT, and DELETE. Below the toolbar, a dropdown menu is open, labeled 'SQL statement:', containing the SQL query: 'SELECT DISH\_CODE, DISH\_NAME FROM DISH'.

Figure 61: Select query for dish name drop down list

- ❖ Select query for grid view

SELECT UPDATE INSERT DELETE

SQL statement:

```
SELECT d.DISH_CODE, d.DISH_NAME, dr.DISH_RATE, r.RESTAURANT_ID, r.RESTAURANT_NAME FROM RESTAURANT r JOIN DISH_RESTAURANT dr ON r.RESTAURANT_ID = dr.RESTAURANT_ID JOIN DISH d ON dr.DISH_CODE = d.DISH_CODE
```

Figure 62: Select query for grid view

(Vinish, 2021)

- ❖ Select query for displaying data in grid view after selecting a dish name

```
"select d.dish_code, d.dish_name, dr.dish_rate, r.restaurant_id,
r.restaurant_name from restaurant r join dish_restaurant dr on r.restaurant_id
= dr.restaurant_id join dish d on dr.dish_code = d.dish_code where dr.dish_code
= '" + dish_code + "'";
```

## 6.9 Order Activity webform

The screenshot shows a web-based application interface for 'Order Activity'. At the top, there is a navigation bar with links: GoodFood, Dish, Customer, Restaurant, Loyalty, Address, Customer Order, Dish Search, and Order Activity. Below the navigation bar, there are two input fields: 'Customer Name' with a dropdown menu showing 'Callum Hudson Odoi' and 'Customer ID' with an empty text input field. Underneath these fields is a section titled 'Order History Details:' containing a table with the following data:

RESTAURANT ID	RESTAURANT NAME	MONTH	TOTAL ORDER
R1006	Sherpa Kitchen	December 2020	5
R1009	Jalapeno Restaurant	December 2020	4
R1010	Eat Street	December 2020	3
R1007	Shantiko Kitchen	December 2020	2
R1005	Bay Leaf Restaurant	November 2020	1

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Figure 63: Order Activity webform

- ❖ Select query for customer name drop down list

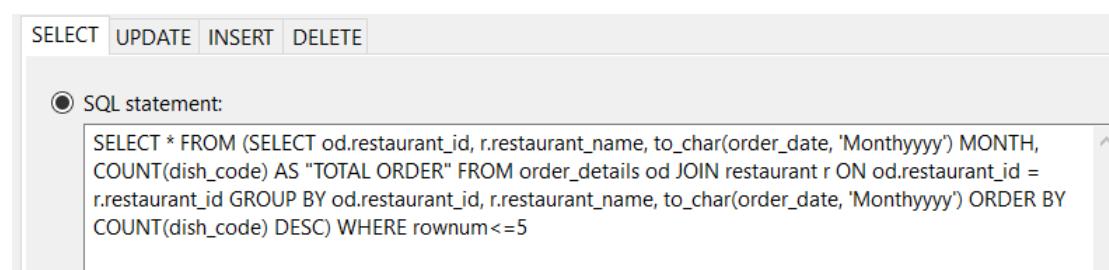
SELECT UPDATE INSERT DELETE

SQL statement:

```
SELECT CUSTOMER_ID, CUSTOMER_NAME FROM CUSTOMER
```

Figure 64: Select query for customer name drop down list

❖ Select query for grid view



The screenshot shows a database interface with a toolbar at the top containing buttons for SELECT, UPDATE, INSERT, and DELETE. The 'SELECT' button is highlighted. Below the toolbar, a section titled 'SQL statement:' contains the following code:

```
SELECT * FROM (SELECT od.restaurant_id, r.restaurant_name, to_char(order_date, 'Monthyyyy') MONTH,
COUNT(dish_code) AS "TOTAL ORDER" FROM order_details od JOIN restaurant r ON od.restaurant_id =
r.restaurant_id GROUP BY od.restaurant_id, r.restaurant_name, to_char(order_date, 'Monthyyyy')) ORDER BY
COUNT(dish_code) DESC WHERE rownum<=5
```

*Figure 65: Select query for grid view*

(oracletutorial, n.d.; oracle, 2003; Brumm, 2015)

## 7. Testing

The tests were implemented in the following way:

### 7.1 Oracle database connection

#### Test case: 1

<b>Objective</b>	To check whether SqlDataSource will be connected to database or not.
<b>Action</b>	Server name, user name and password were provided.
<b>Expected Result</b>	Test connection will succeed.
<b>Actual Result</b>	<b>BadImageFormatException</b> problem was displayed.
<b>Conclusion</b>	Test was <b>unsuccessful</b> .

Table 26: Test case 1

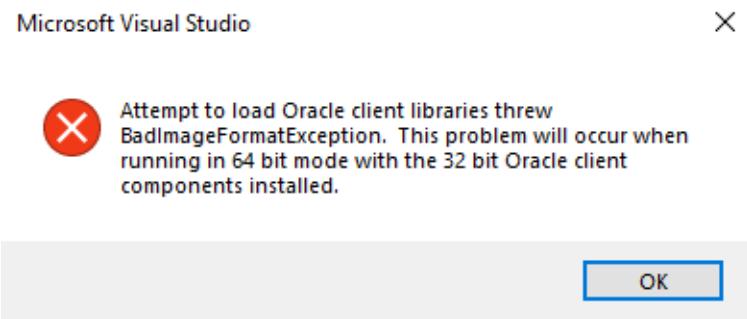


Figure 66: BadImageFormatException error

To correct this problem, I uninstalled my current 64 bit oracle and then installed 32 bit version. After installing the 32 bit version oracle, test connection was succeeded as shown in the image below:

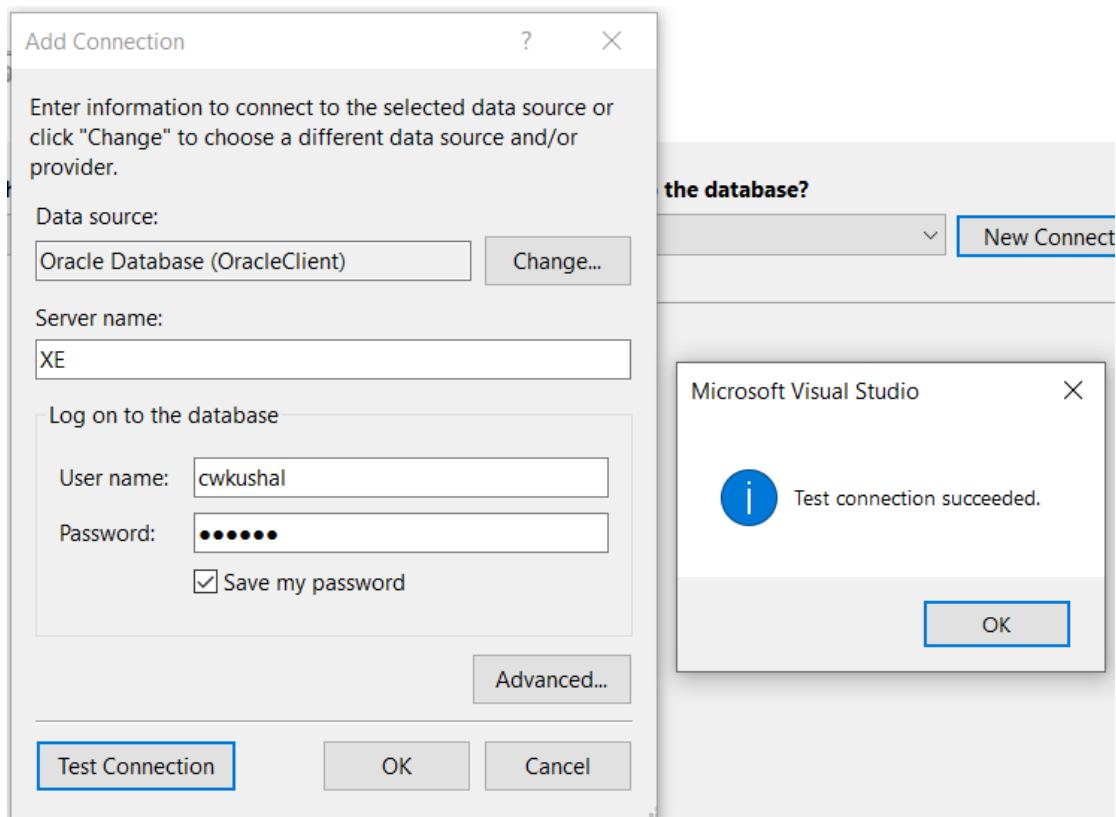


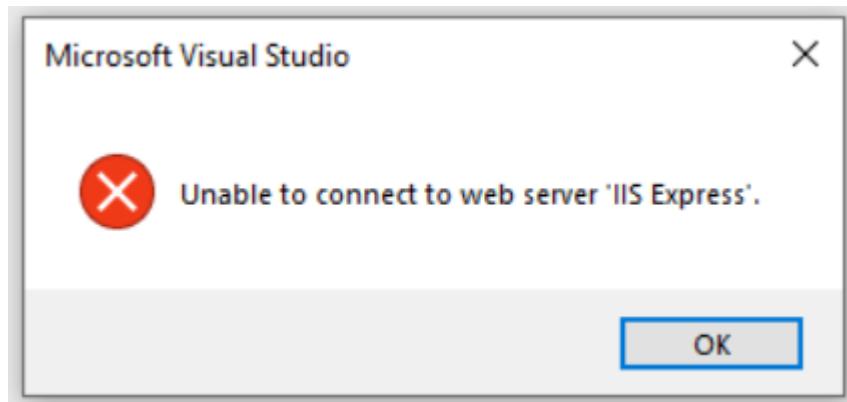
Figure 67: Oracle Database connection successful

## 7.2 IIS Express

### Test case: 2

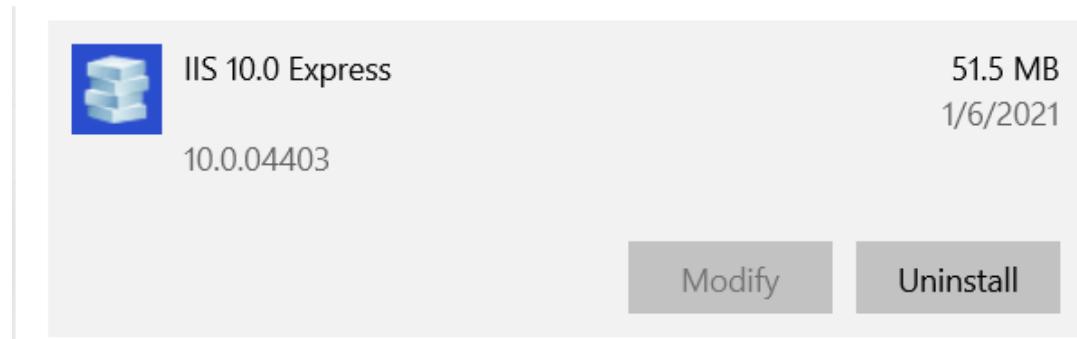
<b>Objective</b>	To check whether webform will run in browser or not.
<b>Action</b>	In Microsoft Visual Studio, IIS Express (Google Chrome) button was clicked to run webform in browser.
<b>Expected Result</b>	Webform will be executed in Google Chrome.
<b>Actual Result</b>	Microsoft Visual Studio was unable to connect to web server 'IIS Express'.
<b>Conclusion</b>	Test was <b>unsuccessful</b> .

Table 27: Test case 2



*Figure 68: IIS Express error*

The reason for this problem was because IIS Express was not installed in my computer. Hence, I downloaded the IIS 10.0 Express which solved this problem.



*Figure 69: IIS 10.0 Express*

### 7.3 Dish Details webform

#### Test case: 3

<b>Objective</b>	To check whether data will be inserted in the grid view or not.
<b>Action</b>	Values were entered in each text box.
<b>Expected Result</b>	Data will be inserted in the grid view.
<b>Actual Result</b>	Data were successfully inserted in the grid view.
<b>Conclusion</b>	Test was successful.

*Table 28: Test case 3*

❖ Before inserting data

Dish Details:

	<b>DISH CODE</b>	<b>DISH NAME</b>	<b>DISH RATE</b>	<b>LOCAL NAME</b>
Edit	CHKMO	Chicken Momo	350	Dumplings
Edit	MIXCHT	Mixed Chatamari	470	Nepali Pizza
Edit	VEGPAS	Vegetable Pasta	150	Veg Pasta
Edit	BUFCH	Buff Chowmin	140	Buff Chowmin
Edit	MIXPIZ	Mixed Pizza	325	Mixed Pizza
Edit	CHKSHA	Chicken Shapale	70	Chicken Shapale
Edit	BEENAN	Beef Nan	75	Beef Nan
Edit	CHKTHA	Chicken Thakali Khana	335	Nepali khana
Edit	MASDOS	Masala Dosa	250	Masala Dosa
Edit	CHKCHI	Chicken Chilli	300	Chicken Chilli

Figure 70: Before inserting data in Dish Details webform

❖ While inserting data

The screenshot shows the GoodFood web application interface. At the top, there is a navigation bar with links: GoodFood, Dish, Customer, Restaurant, Loyalty, Address, and Customer Order. Below the navigation bar, there is a form for adding a new dish. The form fields are: Dish Code (containing 'CHTPAT'), Dish Name (containing 'Chatpate'), Dish Rate (containing '200'), and Local Name (containing 'Chatpate'). A green 'Save' button is located below the form. At the bottom of the page, there is a table titled 'Dish Details' with columns: DISH CODE, DISH NAME, DISH RATE, and LOCAL NAME. The table contains the same data as Figure 70, plus the new entry with Dish Code 'CHTPAT'.

	<b>DISH CODE</b>	<b>DISH NAME</b>	<b>DISH RATE</b>	<b>LOCAL NAME</b>
Edit	CHKMO	Chicken Momo	350	Dumplings
Edit	MIXCHT	Mixed Chatamari	470	Nepali Pizza
Edit	VEGPAS	Vegetable Pasta	150	Veg Pasta
Edit	BUFCH	Buff Chowmin	140	Buff Chowmin
Edit	MIXPIZ	Mixed Pizza	325	Mixed Pizza
Edit	CHKSHA	Chicken Shapale	70	Chicken Shapale
Edit	BEENAN	Beef Nan	75	Beef Nan
Edit	CHKTHA	Chicken Thakali Khana	335	Nepali khana
Edit	MASDOS	Masala Dosa	250	Masala Dosa
Edit	CHKCHI	Chicken Chilli	300	Chicken Chilli

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Figure 71: While inserting data in Dish Details webform

- ❖ After inserting data

Dish Details:				
	DISH CODE	DISH NAME	DISH RATE	LOCAL NAME
Edit Delete	CHKMO	Chicken Momo	350	Dumplings
Edit Delete	MIXCHT	Mixed Chatamari	470	Nepali Pizza
Edit Delete	VEGPAS	Vegetable Pasta	150	Veg Pasta
Edit Delete	BUFCH	Buff Chowmin	140	Buff Chowmin
Edit Delete	MIXPIZ	Mixed Pizza	325	Mixed Pizza
Edit Delete	CHKSHA	Chicken Shapale	70	Chicken Shapale
Edit Delete	BEENAN	Beef Nan	75	Beef Nan
Edit Delete	CHKTHA	Chicken Thakali Khana	335	Nepali khana
Edit Delete	MASDOS	Masala Dosa	250	Masala Dosa
Edit Delete	CHKCHI	Chicken Chilli	300	Chicken Chilli
Edit Delete	CHTPAT	Chatpate	200	Chatpate

Figure 72: After inserting data in Dish Details webform

#### Test case: 4

<b>Objective</b>	To check whether data in the grid view will be updated or not.
<b>Action</b>	Edit button was clicked in the grid view and data were edited for dish code 'CHTPAT'.
<b>Expected Result</b>	Data will be updated in the grid view.
<b>Actual Result</b>	Data were successfully updated in the grid view.
<b>Conclusion</b>	Test was successful.

Table 29: Test case 4

❖ Before updating data

Dish Details:				
	DISH CODE	DISH NAME	DISH RATE	LOCAL NAME
Edit Delete	CHKMO	Chicken Momo	350	Dumplings
Edit Delete	MIXCHT	Mixed Chatamari	470	Nepali Pizza
Edit Delete	VEGPAS	Vegetable Pasta	150	Veg Pasta
Edit Delete	BUFCH	Buff Chowmin	140	Buff Chowmin
Edit Delete	MIXPIZ	Mixed Pizza	325	Mixed Pizza
Edit Delete	CHKSHA	Chicken Shapale	70	Chicken Shapale
Edit Delete	BEENAN	Beef Nan	75	Beef Nan
Edit Delete	CHKTHA	Chicken Thakali Khana	335	Nepali khana
Edit Delete	MASDOS	Masala Dosa	250	Masala Dosa
Edit Delete	CHKCHI	Chicken Chilli	300	Chicken Chilli
Edit Delete	CHTPAT	Chatpate	200	Chatpate

Figure 73: Before updating data in Dish Details webform

❖ While updating data

Dish Details:				
	DISH CODE	DISH NAME	DISH RATE	LOCAL NAME
Edit Delete	CHKMO	Chicken Momo	350	Dumplings
Edit Delete	MIXCHT	Mixed Chatamari	470	Nepali Pizza
Edit Delete	VEGPAS	Vegetable Pasta	150	Veg Pasta
Edit Delete	BUFCH	Buff Chowmin	140	Buff Chowmin
Edit Delete	MIXPIZ	Mixed Pizza	325	Mixed Pizza
Edit Delete	CHKSHA	Chicken Shapale	70	Chicken Shapale
Edit Delete	BEENAN	Beef Nan	75	Beef Nan
Edit Delete	CHKTHA	Chicken Thakali Khana	335	Nepali khana
Edit Delete	MASDOS	Masala Dosa	250	Masala Dosa
Edit Delete	CHKCHI	Chicken Chilli	300	Chicken Chilli
Update Cancel	CHTPAT	Chatpate	100	Masala Chatpate

Figure 74: While updating data in Dish Details webform

❖ After updating data

Dish Details:				
	DISH CODE	DISH NAME	DISH RATE	LOCAL NAME
Edit Delete	CHKMO	Chicken Momo	350	Dumplings
Edit Delete	MIXCHT	Mixed Chatamari	470	Nepali Pizza
Edit Delete	VEGPAS	Vegetable Pasta	150	Veg Pasta
Edit Delete	BUFCH	Buff Chowmin	140	Buff Chowmin
Edit Delete	MIXPIZ	Mixed Pizza	325	Mixed Pizza
Edit Delete	CHKSHA	Chicken Shapale	70	Chicken Shapale
Edit Delete	BEENAN	Beef Nan	75	Beef Nan
Edit Delete	CHKTHA	Chicken Thakali Khana	335	Nepali khana
Edit Delete	MASDOS	Masala Dosa	250	Masala Dosa
Edit Delete	CHKCHI	Chicken Chilli	300	Chicken Chilli
Edit Delete	CHTPAT	Chatpate	100	Masala Chatpate

Figure 75: After updating data in Dish Details webform

**Test case: 5**

<b>Objective</b>	To check whether data in the grid view will be deleted or not.
<b>Action</b>	Delete button was clicked in the grid view for dish code 'CHTPAT'.
<b>Expected Result</b>	Data will be deleted in the grid view.
<b>Actual Result</b>	Data was successfully deleted in the grid view.
<b>Conclusion</b>	Test was successful.

*Table 30: Test case 5*

- ❖ Before deleting data

Dish Details:				
	DISH CODE	DISH NAME	DISH RATE	LOCAL NAME
Edit Delete	CHKMO	Chicken Momo	350	Dumplings
Edit Delete	MIXCHT	Mixed Chatamari	470	Nepali Pizza
Edit Delete	VEGPAS	Vegetable Pasta	150	Veg Pasta
Edit Delete	BUFCH	Buff Chowmin	140	Buff Chowmin
Edit Delete	MIXPIZ	Mixed Pizza	325	Mixed Pizza
Edit Delete	CHKSHA	Chicken Shapale	70	Chicken Shapale
Edit Delete	BEENAN	Beef Nan	75	Beef Nan
Edit Delete	CHKTHA	Chicken Thakali Khana	335	Nepali khana
Edit Delete	MASDOS	Masala Dosa	250	Masala Dosa
Edit Delete	CHKCHI	Chicken Chilli	300	Chicken Chilli
Edit Delete	CHTPAT	Chatpate	100	Masala Chatpate

*Figure 76: Before deleting data in Dish Details webform*

- After deleting data

Dish Details:				
	DISH CODE	DISH NAME	DISH RATE	LOCAL NAME
Edit Delete	CHKMO	Chicken Momo	350	Dumplings
Edit Delete	MIXCHT	Mixed Chatamari	470	Nepali Pizza
Edit Delete	VEGPAS	Vegetable Pasta	150	Veg Pasta
Edit Delete	BUFCH	Buff Chowmin	140	Buff Chowmin
Edit Delete	MIXPIZ	Mixed Pizza	325	Mixed Pizza
Edit Delete	CHKSHA	Chicken Shapale	70	Chicken Shapale
Edit Delete	BEENAN	Beef Nan	75	Beef Nan
Edit Delete	CHKTHA	Chicken Thakali Khana	335	Nepali khana
Edit Delete	MASDOS	Masala Dosa	250	Masala Dosa
Edit Delete	CHKCHI	Chicken Chilli	300	Chicken Chilli

*Figure 77: After deleting data in Dish Details webform*

## 7.4 Restaurant Details webform

### Test case: 6

<b>Objective</b>	To check whether data will be inserted in the grid view or not.
<b>Action</b>	Values were entered in each text box.
<b>Expected Result</b>	Data will be inserted in the grid view.
<b>Actual Result</b>	Data were successfully inserted in the grid view.
<b>Conclusion</b>	Test was successful.

Table 31: Test case 6

- ❖ Before inserting data



Restaurant Details:				
	RESTAURANT ID	RESTAURANT NAME	RESTAURANT ADDRESS	CONTACT NUMBER
Edit Delete	R1001	Feels Good	Lakeside, Pokhara	9800000000
Edit Delete	R1002	Thakali	New Road, Kathmandu	9811111111
Edit Delete	R1003	Dunga Restro	Lakeside, Pokhara	9811200000
Edit Delete	R1004	Anaki Restaurant	Naghdhunga-08, Pokhara	9811113456
Edit Delete	R1005	Bay Leaf Restaurant	Amarsingh, Pokhara	9811144444
Edit Delete	R1006	Sherpa Kitchen	Uttam Chowk, Pokhara	9809876541
Edit Delete	R1007	Shantiko Kitchen	Naya Bazar, Pokhara	9846088888
Edit Delete	R1008	Greasy Spoon Restaurant	Narayanghat, Chitwan	9845908335
Edit Delete	R1009	Jalapeno Restaurant	Kahun, Chitwan	9889335578
Edit Delete	R1010	Eat Street	Gaudakomukh-13, Pokhara	9898078680

Figure 78: Before inserting data in Restaurant Details webform

❖ While inserting data

The screenshot shows a web-based application interface for managing restaurant details. At the top, there is a navigation bar with links: GoodFood, Dish, Customer, Restaurant, Loyalty, Address, Customer Order, Dish Search, and Order Activ. Below the navigation bar, there is a form for entering new restaurant information:

Restaurant ID	R1011
Restaurant Name	Forest & Plate
Address	Mandala Street, Kathmandu
Contact Number	9800198744

Below the form is a green "SAVE" button. Underneath the form, there is a section titled "Restaurant Details:" which contains a table with the following data:

	RESTAURANT ID	RESTAURANT NAME	RESTAURANT ADDRESS	CONTACT NUMBER
Edit	R1001	Feels Good	Lakeside, Pokhara	9800000000
Delete	R1002	Thakali	New Road, Kathmandu	9811111111
Edit	R1003	Dunga Restro	Lakeside, Pokhara	9811200000
Delete	R1004	Anaki Restaurant	Naghdhunga-08, Pokhara	9811113456
Edit	R1005	Bay Leaf Restaurant	Amarsingh, Pokhara	9811144444
Delete	R1006	Sherpa Kitchen	Uttam Chowk, Pokhara	9809876541
Edit	R1007	Shantiko Kitchen	Naya Bazar, Pokhara	9846088888
Delete	R1008	Greasy Spoon Restaurant	Narayanghat, Chitwan	9845908335
Edit	R1009	Jalapeno Restaurant	Kahun, Chitwan	9889335578
Delete	R1010	Eat Street	Gaundakomukh-13, Pokhara	9898078680

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Figure 79: While inserting data in Restaurant Details webform

❖ After inserting data

The screenshot shows the same web-based application interface for managing restaurant details. The table under the "Restaurant Details:" section now includes the newly inserted row:

	RESTAURANT ID	RESTAURANT NAME	RESTAURANT ADDRESS	CONTACT NUMBER
Edit	R1001	Feels Good	Lakeside, Pokhara	9800000000
Delete	R1002	Thakali	New Road, Kathmandu	9811111111
Edit	R1003	Dunga Restro	Lakeside, Pokhara	9811200000
Delete	R1004	Anaki Restaurant	Naghdhunga-08, Pokhara	9811113456
Edit	R1005	Bay Leaf Restaurant	Amarsingh, Pokhara	9811144444
Delete	R1006	Sherpa Kitchen	Uttam Chowk, Pokhara	9809876541
Edit	R1007	Shantiko Kitchen	Naya Bazar, Pokhara	9846088888
Delete	R1008	Greasy Spoon Restaurant	Narayanghat, Chitwan	9845908335
Edit	R1009	Jalapeno Restaurant	Kahun, Chitwan	9889335578
Delete	R1010	Eat Street	Gaundakomukh-13, Pokhara	9898078680
	R1011	Forest & Plate	Mandala Street, Kathmandu	9800198744

Figure 80: After inserting data in Restaurant Details webform

**Test case: 7**

<b>Objective</b>	To check whether data in the grid view will be updated or not.
<b>Action</b>	Edit button was clicked in the grid view and data were edited for restaurant id 'R1011'.
<b>Expected Result</b>	Data will be updated in the grid view.
<b>Actual Result</b>	Data were successfully updated in the grid view.
<b>Conclusion</b>	Test was successful.

*Table 32: Test case 7*

- ❖ Before updating data



Restaurant Details:				
	RESTAURANT ID	RESTAURANT NAME	RESTAURANT ADDRESS	CONTACT NUMBER
Edit Delete	R1001	Feels Good	Lakeside, Pokhara	9800000000
Edit Delete	R1002	Thakali	New Road, Kathmandu	9811111111
Edit Delete	R1003	Dunga Restro	Lakeside, Pokhara	9811200000
Edit Delete	R1004	Anaki Restaurant	Naghdhunga-08, Pokhara	9811113456
Edit Delete	R1005	Bay Leaf Restaurant	Amarsingh, Pokhara	9811144444
Edit Delete	R1006	Sherpa Kitchen	Uttam Chowk, Pokhara	9809876541
Edit Delete	R1007	Shantiko Kitchen	Naya Bazar, Pokhara	9846088888
Edit Delete	R1008	Greasy Spoon Restaurant	Narayanghat, Chitwan	9845908335
Edit Delete	R1009	Jalapeno Restaurant	Kahun, Chitwan	9889335578
Edit Delete	R1010	Eat Street	Gaundakomukh-13, Pokhara	9898078680
Edit Delete	R1011	Forest & Plate	Mandala Street, Kathmandu	9800198744

*Figure 81: Before updating data in Restaurant Details webform*

- ❖ While updating data



Restaurant Details:				
	RESTAURANT ID	RESTAURANT NAME	RESTAURANT ADDRESS	CONTACT NUMBER
Edit Delete	R1001	Feels Good	Lakeside, Pokhara	9800000000
Edit Delete	R1002	Thakali	New Road, Kathmandu	9811111111
Edit Delete	R1003	Dunga Restro	Lakeside, Pokhara	9811200000
Edit Delete	R1004	Anaki Restaurant	Naghdhunga-08, Pokhara	9811113456
Edit Delete	R1005	Bay Leaf Restaurant	Amarsingh, Pokhara	9811144444
Edit Delete	R1006	Sherpa Kitchen	Uttam Chowk, Pokhara	9809876541
Edit Delete	R1007	Shantiko Kitchen	Naya Bazar, Pokhara	9846088888
Edit Delete	R1008	Greasy Spoon Restaurant	Narayanghat, Chitwan	9845908335
Edit Delete	R1009	Jalapeno Restaurant	Kahun, Chitwan	9889335578
Edit Delete	R1010	Eat Street	Gaundakomukh-13, Pokhara	9898078680
Update Cancel	R1011	Forest & River	Mandala Road, Kathmandu	9800198755

*Figure 82: While updating data in Restaurant Details webform*

❖ After updating data

Restaurant Details:				
	RESTAURANT ID	RESTAURANT NAME	RESTAURANT ADDRESS	CONTACT NUMBER
Edit Delete	R1001	Feels Good	Lakeside, Pokhara	9800000000
Edit Delete	R1002	Thakali	New Road, Kathmandu	9811111111
Edit Delete	R1003	Dunga Restro	Lakeside, Pokhara	9811200000
Edit Delete	R1004	Anaki Restaurant	Naghdhunga-08, Pokhara	9811113456
Edit Delete	R1005	Bay Leaf Restaurant	Amarsingh, Pokhara	9811144444
Edit Delete	R1006	Sherpa Kitchen	Uttam Chowk, Pokhara	9809876541
Edit Delete	R1007	Shantiko Kitchen	Naya Bazar, Pokhara	9846088888
Edit Delete	R1008	Greasy Spoon Restaurant	Narayanghat, Chitwan	9845908335
Edit Delete	R1009	Jalapeno Restaurant	Kahun, Chitwan	9889335578
Edit Delete	R1010	Eat Street	Gaundakomukh-13, Pokhara	9898078680
Edit Delete	R1011	Forest & River	Mandala Road, Kathmandu	9800198755

Figure 83: After updating data in Restaurant Details webform

**Test case: 8**

<b>Objective</b>	To check whether data in the grid view will be deleted or not.
<b>Action</b>	Delete button was clicked in the grid view for restaurant id 'R1011'.
<b>Expected Result</b>	Data will be deleted in the grid view.
<b>Actual Result</b>	Data was successfully deleted in the grid view.
<b>Conclusion</b>	Test was successful.

Table 33: Test case 8

❖ Before deleting data

Restaurant Details:				
	RESTAURANT ID	RESTAURANT NAME	RESTAURANT ADDRESS	CONTACT NUMBER
Edit Delete	R1001	Feels Good	Lakeside, Pokhara	9800000000
Edit Delete	R1002	Thakali	New Road, Kathmandu	9811111111
Edit Delete	R1003	Dunga Restro	Lakeside, Pokhara	9811200000
Edit Delete	R1004	Anaki Restaurant	Naghdhunga-08, Pokhara	9811113456
Edit Delete	R1005	Bay Leaf Restaurant	Amarsingh, Pokhara	9811144444
Edit Delete	R1006	Sherpa Kitchen	Uttam Chowk, Pokhara	9809876541
Edit Delete	R1007	Shantiko Kitchen	Naya Bazar, Pokhara	9846088888
Edit Delete	R1008	Greasy Spoon Restaurant	Narayanghat, Chitwan	9845908335
Edit Delete	R1009	Jalapeno Restaurant	Kahun, Chitwan	9889335578
Edit Delete	R1010	Eat Street	Gaundakomukh-13, Pokhara	9898078680
Edit Delete	R1011	Forest & River	Mandala Road, Kathmandu	9800198755

Figure 84: Before deleting data in Restaurant Details webform

❖ After deleting data

Restaurant Details:				
	RESTAURANT ID	RESTAURANT NAME	RESTAURANT ADDRESS	CONTACT NUMBER
Edit Delete	R1001	Feels Good	Lakeside, Pokhara	9800000000
Edit Delete	R1002	Thakali	New Road, Kathmandu	9811111111
Edit Delete	R1003	Dunga Restro	Lakeside, Pokhara	9811200000
Edit Delete	R1004	Anaki Restaurant	Naghdhunga-08, Pokhara	9811113456
Edit Delete	R1005	Bay Leaf Restaurant	Amarsingh, Pokhara	9811144444
Edit Delete	R1006	Sherpa Kitchen	Uttam Chowk, Pokhara	9809876541
Edit Delete	R1007	Shantiko Kitchen	Naya Bazar, Pokhara	9846088888
Edit Delete	R1008	Greasy Spoon Restaurant	Narayanghat, Chitwan	9845908335
Edit Delete	R1009	Jalapeno Restaurant	Kahun, Chitwan	9889335578
Edit Delete	R1010	Eat Street	Gaudakomukh-13, Pokhara	9898078680

Figure 85: After deleting data in Restaurant Details webform

## 7.5 Customer Details webform

### Test case: 9

<b>Objective</b>	To check whether data will be inserted in the grid view or not.
<b>Action</b>	Values were entered in each text box.
<b>Expected Result</b>	Data will be inserted in the grid view.
<b>Actual Result</b>	Data were successfully inserted in the grid view.
<b>Conclusion</b>	Test was successful.

Table 34: Test case 9

❖ Before inserting data

Customer Details:					
	CUSTOMER ID	CUSTOMER NAME	AGE	ADDRESS	CONTACT NUMBER
Edit Delete	C0001	Callum Hudson Odoi	19	Sital Devi-12, Pokhara	9801191111
Edit Delete	C0002	Eden Hazard	29	Bhajapatan-13, Pokhara	9801111111
Edit Delete	C0003	Mason Mount	21	Ranipauwa-11, Pokhara	4499089809
Edit Delete	C0004	David Beckham	45	Bijaypur-10, Pokhara	9807765410
Edit Delete	C0005	Paulo Dybala	30	Laliguras, Pokhara	9815167809
Edit Delete	C0006	Timo Werner	24	Amarsingh, Pokhara	9819109870
Edit Delete	C0007	Hakim Ziyech	28	Hospital Chowk, Pokhara	9800987610
Edit Delete	C0008	Neymar Jr	27	Lakeside, Pokhara	9890876100
Edit Delete	C0009	Tammy Abraham	22	Mahendra Pool, Pokhara	9890198001
Edit Delete	C0010	Cristiano Ronaldo	33	Chapapani-12, Pokhara	9801176856
Edit Delete	C0011	Romeo Lukaku	28	Prithvi Chowk, Pokhara	9800000059
Edit Delete	C0012	Karim Benzema	30	Milan Tole, Pokhara	9111126855
Edit Delete	C0013	Zlatan Ibrahimovich	35	Sangam Tole, Pokhara	9819176816
Edit Delete	C0014	Billy Gilmour	19	Srijana Chowk, Pokhara	9801188760
Edit Delete	C0015	Marcos Alonso	28	Chisapani-13, Pokhara	9809876781
Edit Delete	C0016	Reece James	20	Miyapatan-13, Pokhara	9801667800
Edit Delete	C0017	Thiago Silva	33	Purandhara, Pokhara	9801211345
Edit Delete	C0018	Kushal Gurung	20	Gaudakomukh-13, Pokhara	9801111111
Edit Delete	C0019	Kai Havertz	21	Dhungenesau, Pokhara	9800145567
Edit Delete	C0020	Toni Rudiger	27	Shanti Tole, Pokhara	9846098710
Edit Delete	C0021	Jose Mourinho	51	Charange, Butwal	9806618256
Edit Delete	C0022	Antonio Conte	48	Maitri Path, Butwal	9801087790
Edit Delete	C0023	Roman Abramovich	56	Amar Path, Butwal	9802176889

Figure 86: Before inserting data in Customer Details webform

❖ While inserting data

The screenshot shows a web application for managing customer data. At the top, there is a navigation bar with links: GoodFood, Dish, Customer, Restaurant, Loyalty, Address, Customer Order, Dish Search, and Order Activity. Below the navigation bar, there is a form for inserting new customer information. The form fields include Customer ID (C0024), Customer Name (Rob Keane), Age (55), Address (Sundhara, Kathmandu), and Contact Number (9812388970). A green 'Save' button is located below the form. Below the form, there is a section titled 'Customer Details:' containing a table with 23 rows of data. The table has columns for Customer ID, Customer Name, Age, Address, and Contact Number. Each row includes edit and delete links. The data in the table is as follows:

	CUSTOMER ID	CUSTOMER NAME	AGE	ADDRESS	CONTACT NUMBER
Edit Delete	C0001	Callum Hudson Odoi	19	Sital Devi-12, Pokhara	9801191111
Edit Delete	C0002	Eden Hazard	29	Bhajapatan-13, Pokhara	9801111111
Edit Delete	C0003	Mason Mount	21	Ranipauwa-11, Pokhara	4499089809
Edit Delete	C0004	David Beckham	45	Bijaypur-10, Pokhara	9807765410
Edit Delete	C0005	Paulo Dybala	30	Laliguras, Pokhara	9815167809
Edit Delete	C0006	Timo Werner	24	Amarsligh, Pokhara	9819109870
Edit Delete	C0007	Hakim Ziyech	28	Hospital Chowk, Pokhara	9800987610
Edit Delete	C0008	Neymar Jr	27	Lakeside, Pokhara	9890876100
Edit Delete	C0009	Tammy Abraham	22	Mahendra Pool, Pokhara	9890198001
Edit Delete	C0010	Cristiano Ronaldo	33	Chapapani-12, Pokhara	9801176856
Edit Delete	C0011	Romeo Lukaku	28	Prithvi Chowk, Pokhara	9800000059
Edit Delete	C0012	Karim Benzema	30	Milan Tole, Pokhara	9111126855
Edit Delete	C0013	Zlatan Ibrahimovich	35	Sangam Tole, Pokhara	9819176816
Edit Delete	C0014	Billy Gilmour	19	Srijana Chowk, Pokhara	9801188760
Edit Delete	C0015	Marcos Alonso	28	Chisapani-13, Pokhara	9809876781
Edit Delete	C0016	Reece James	20	Miyapatkan-13, Pokhara	9801667800
Edit Delete	C0017	Thiago Silva	33	Purandhara, Pokhara	9801211345
Edit Delete	C0018	Kushal Gurung	20	Gaundakomukh-13, Pokhara	9801111111
Edit Delete	C0019	Kai Havertz	21	Dhungesau, Pokhara	9800145567
Edit Delete	C0020	Toni Rudiger	27	Shanti Tole, Pokhara	9846098710
Edit Delete	C0021	Jose Mourinho	51	Charange, Butwal	9806618256
Edit Delete	C0022	Antonio Conte	48	Maitri Path, Butwal	9801087790
Edit Delete	C0023	Roman Abramovich	56	Amar Path, Butwal	9802176889

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Figure 87: While inserting data in Customer Details webform

❖ After inserting data

Customer Details:					
	CUSTOMER ID	CUSTOMER NAME	AGE	ADDRESS	CONTACT NUMBER
Edit Delete	C0001	Callum Hudson Odoi	19	Sital Devi-12, Pokhara	9801191111
Edit Delete	C0002	Eden Hazard	29	Bhajapatan-13, Pokhara	9801111111
Edit Delete	C0003	Mason Mount	21	Ranipauwa-11, Pokhara	4499089809
Edit Delete	C0004	David Beckham	45	Bijaypur-10, Pokhara	9807765410
Edit Delete	C0005	Paulo Dybala	30	Laliguras, Pokhara	9815167809
Edit Delete	C0006	Timo Werner	24	Amarsingh, Pokhara	9819109870
Edit Delete	C0007	Hakim Ziyech	28	Hospital Chowk, Pokhara	9800987610
Edit Delete	C0008	Neymar Jr	27	Lakeside, Pokhara	9890876100
Edit Delete	C0009	Tammy Abraham	22	Mahendra Pool, Pokhara	9890198001
Edit Delete	C0010	Cristiano Ronaldo	33	Chapapani-12, Pokhara	9801176856
Edit Delete	C0011	Romeo Lukaku	28	Prithvi Chowk, Pokhara	9800000059
Edit Delete	C0012	Karim Benzema	30	Milan Tole, Pokhara	9111126855
Edit Delete	C0013	Zlatan Ibrahimovich	35	Sangam Tole, Pokhara	9819176816
Edit Delete	C0014	Billy Gilmour	19	Srijana Chowk, Pokhara	9801188760
Edit Delete	C0015	Marcos Alonso	28	Chisapani-13, Pokhara	9809876781
Edit Delete	C0016	Reece James	20	Miyapatan-13, Pokhara	9801667800
Edit Delete	C0017	Thiago Silva	33	Purandhara, Pokhara	9801211345
Edit Delete	C0018	Kushal Gurung	20	Gaundakomukh-13, Pokhara	9801111111
Edit Delete	C0019	Kai Havertz	21	Dhungesau, Pokhara	9800145567
Edit Delete	C0020	Toni Rudiger	27	Shanti Tole, Pokhara	9846098710
Edit Delete	C0021	Jose Mourinho	51	Charange, Butwal	9806618256
Edit Delete	C0022	Antonio Conte	48	Maitri Path, Butwal	9801087790
Edit Delete	C0023	Roman Abramovich	56	Amar Path, Butwal	9802176889
Edit Delete	C0024	Rob Keane	55	Sundhara, Kathmandu	9812388970

Figure 88: After inserting data in Customer Details webform

**Test case: 10**

<b>Objective</b>	To check whether data in the grid view will be updated or not.
<b>Action</b>	Edit button was clicked in the grid view and data were edited for customer id 'C0024'.
<b>Expected Result</b>	Data will be updated in the grid view.
<b>Actual Result</b>	Data were successfully updated in the grid view.
<b>Conclusion</b>	Test was successful.

Table 35: Test case 10

❖ Before updating data

Customer Details:					
	CUSTOMER ID	CUSTOMER NAME	AGE	ADDRESS	CONTACT NUMBER
Edit Delete	C0001	Callum Hudson Odoi	19	Sital Devi-12, Pokhara	9801191111
Edit Delete	C0002	Eden Hazard	29	Bhajapatan-13, Pokhara	9801111111
Edit Delete	C0003	Mason Mount	21	Ranipauwa-11, Pokhara	4499089809
Edit Delete	C0004	David Beckham	45	Bijaypur-10, Pokhara	9807765410
Edit Delete	C0005	Paulo Dybala	30	Laliguras, Pokhara	9815167809
Edit Delete	C0006	Timo Werner	24	Amarsingh, Pokhara	9819109870
Edit Delete	C0007	Hakim Ziyech	28	Hospital Chowk, Pokhara	9800987610
Edit Delete	C0008	Neymar Jr	27	Lakeside, Pokhara	9890876100
Edit Delete	C0009	Tammy Abraham	22	Mahendra Pool, Pokhara	9890198001
Edit Delete	C0010	Cristiano Ronaldo	33	Chapapani-12, Pokhara	9801176856
Edit Delete	C0011	Romeo Lukaku	28	Prithvi Chowk, Pokhara	9800000059
Edit Delete	C0012	Karim Benzema	30	Milan Tole, Pokhara	9111126855
Edit Delete	C0013	Zlatan Ibrahimovich	35	Sangam Tole, Pokhara	9819176816
Edit Delete	C0014	Billy Gilmour	19	Srijana Chowk, Pokhara	9801188760
Edit Delete	C0015	Marcos Alonso	28	Chisapani-13, Pokhara	9809876781
Edit Delete	C0016	Reece James	20	Miyapatan-13, Pokhara	9801667800
Edit Delete	C0017	Thiago Silva	33	Purandhara, Pokhara	9801211345
Edit Delete	C0018	Kushal Gurung	20	Gaundakomukh-13, Pokhara	9801111111
Edit Delete	C0019	Kai Havertz	21	Dhungesau, Pokhara	9800145567
Edit Delete	C0020	Toni Rudiger	27	Shanti Tole, Pokhara	9846098710
Edit Delete	C0021	Jose Mourinho	51	Charange, Butwal	9806618256
Edit Delete	C0022	Antonio Conte	48	Maitri Path, Butwal	9801087790
Edit Delete	C0023	Roman Abramovich	56	Amar Path, Butwal	9802176889
Edit Delete	C0024	Rob Keane	55	Sundhara, Kathmandu	9812388970

Figure 89: Before updating data in Customer Details webform

❖ While updating data

Customer Details:					
	CUSTOMER ID	CUSTOMER NAME	AGE	ADDRESS	CONTACT NUMBER
Edit Delete	C0001	Callum Hudson Odoi	19	Sital Devi-12, Pokhara	9801191111
Edit Delete	C0002	Eden Hazard	29	Bhajapatan-13, Pokhara	9801111111
Edit Delete	C0003	Mason Mount	21	Ranipauwa-11, Pokhara	4499089809
Edit Delete	C0004	David Beckham	45	Bijaypur-10, Pokhara	9807765410
Edit Delete	C0005	Paulo Dybala	30	Laliguras, Pokhara	9815167809
Edit Delete	C0006	Timo Werner	24	Amarsingh, Pokhara	9819109870
Edit Delete	C0007	Hakim Ziyech	28	Hospital Chowk, Pokhara	9800987610
Edit Delete	C0008	Neymar Jr	27	Lakeside, Pokhara	9890876100
Edit Delete	C0009	Tammy Abraham	22	Mahendra Pool, Pokhara	9890198001
Edit Delete	C0010	Cristiano Ronaldo	33	Chapapani-12, Pokhara	9801176856
Edit Delete	C0011	Romeo Lukaku	28	Prithvi Chowk, Pokhara	9800000059
Edit Delete	C0012	Karim Benzema	30	Milan Tole, Pokhara	9111126855
Edit Delete	C0013	Zlatan Ibrahimovich	35	Sangam Tole, Pokhara	9819176816
Edit Delete	C0014	Billy Gilmour	19	Srijana Chowk, Pokhara	9801188760
Edit Delete	C0015	Marcos Alonso	28	Chisapani-13, Pokhara	9809876781
Edit Delete	C0016	Reece James	20	Miyapatan-13, Pokhara	9801667800
Edit Delete	C0017	Thiago Silva	33	Purandhara, Pokhara	9801211345
Edit Delete	C0018	Kushal Gurung	20	Gaundakomukh-13, Pokhara	9801111111
Edit Delete	C0019	Kai Havertz	21	Dhungesau, Pokhara	9800145567
Edit Delete	C0020	Toni Rudiger	27	Shanti Tole, Pokhara	9846098710
Edit Delete	C0021	Jose Mourinho	51	Charange, Butwal	9806618256
Edit Delete	C0022	Antonio Conte	48	Maitri Path, Butwal	9801087790
Edit Delete	C0023	Roman Abramovich	56	Amar Path, Butwal	9802176889
Update Cancel	C0024	Mr. Roy Keane	50	Laliguras, Pokhara	9812388911

Figure 90: While updating data in Customer Details webform

❖ After updating data

Customer Details:				
	CUSTOMER ID	CUSTOMER NAME	AGE ADDRESS	CONTACT NUMBER
Edit Delete	C0001	Callum Hudson Odoi	19 Sital Devi-12, Pokhara	9801191111
Edit Delete	C0002	Eden Hazard	29 Bhajapatan-13, Pokhara	9801111111
Edit Delete	C0003	Mason Mount	21 Ranipauwa-11, Pokhara	4499089809
Edit Delete	C0004	David Beckham	45 Bijaypur-10, Pokhara	9807765410
Edit Delete	C0005	Paulo Dybala	30 Laliguras, Pokhara	9815167809
Edit Delete	C0006	Timo Werner	24 Amarsingh, Pokhara	9819109870
Edit Delete	C0007	Hakim Ziyech	28 Hospital Chowk, Pokhara	9800987610
Edit Delete	C0008	Neymar Jr	27 Lakeside, Pokhara	9890876100
Edit Delete	C0009	Tammy Abraham	22 Mahendra Pool, Pokhara	9890198001
Edit Delete	C0010	Cristiano Ronaldo	33 Chapapani-12, Pokhara	9801176856
Edit Delete	C0011	Romeo Lukaku	28 Prithvi Chowk, Pokhara	9800000059
Edit Delete	C0012	Karim Benzema	30 Milan Tole, Pokhara	9111126855
Edit Delete	C0013	Zlatan Ibrahimovich	35 Sangam Tole, Pokhara	9819176816
Edit Delete	C0014	Billy Gilmour	19 Srijana Chowk, Pokhara	9801188760
Edit Delete	C0015	Marcos Alonso	28 Chisapani-13, Pokhara	9809876781
Edit Delete	C0016	Reece James	20 Miyapatan-13, Pokhara	9801667800
Edit Delete	C0017	Thiago Silva	33 Purandhara, Pokhara	9801211345
Edit Delete	C0018	Kushal Gurung	20 Gaundakomukh-13, Pokhara	9801111111
Edit Delete	C0019	Kai Havertz	21 Dhungesau, Pokhara	9800145567
Edit Delete	C0020	Toni Rudiger	27 Shanti Tole, Pokhara	9846098710
Edit Delete	C0021	Jose Mourinho	51 Charange, Butwal	9806618256
Edit Delete	C0022	Antonio Conte	48 Maitri Path, Butwal	9801087790
Edit Delete	C0023	Roman Abramovich	56 Amar Path, Butwal	9802176889
Edit Delete	C0024	Mr. Roy Keane	50 Laliguras, Pokhara	9812388911

Figure 91: After updating data in Customer Details webform

**Test case: 11**

<b>Objective</b>	To check whether data in the grid view will be deleted or not.
<b>Action</b>	Delete button was clicked in the grid view for customer id 'C0024'.
<b>Expected Result</b>	Data will be deleted in the grid view.
<b>Actual Result</b>	Data was successfully deleted in the grid view.
<b>Conclusion</b>	Test was successful.

Table 36: Test case 11

❖ Before deleting data

Customer Details:				
	CUSTOMER ID	CUSTOMER NAME	AGE ADDRESS	CONTACT NUMBER
Edit Delete	C0001	Callum Hudson Odoi	19 Sital Devi-12, Pokhara	9801191111
Edit Delete	C0002	Eden Hazard	29 Bhajapatan-13, Pokhara	9801111111
Edit Delete	C0003	Mason Mount	21 Ranipauwa-11, Pokhara	4499089809
Edit Delete	C0004	David Beckham	45 Bijaypur-10, Pokhara	9807765410
Edit Delete	C0005	Paulo Dybala	30 Laliguras, Pokhara	9815167809
Edit Delete	C0006	Timo Werner	24 Amarsingh, Pokhara	9819109870
Edit Delete	C0007	Hakim Ziyech	28 Hospital Chowk, Pokhara	9800987610
Edit Delete	C0008	Neymar Jr	27 Lakeside, Pokhara	9890876100
Edit Delete	C0009	Tammy Abraham	22 Mahendra Pool, Pokhara	9890198001
Edit Delete	C0010	Cristiano Ronaldo	33 Chapapani-12, Pokhara	9801176856
Edit Delete	C0011	Romeo Lukaku	28 Prithvi Chowk, Pokhara	9800000059
Edit Delete	C0012	Karim Benzema	30 Milan Tole, Pokhara	9111126855
Edit Delete	C0013	Zlatan Ibrahimovich	35 Sangam Tole, Pokhara	9819176816
Edit Delete	C0014	Billy Gilmour	19 Srijana Chowk, Pokhara	9801188760
Edit Delete	C0015	Marcos Alonso	28 Chisapani-13, Pokhara	9809876781
Edit Delete	C0016	Reece James	20 Miyapatan-13, Pokhara	9801667800
Edit Delete	C0017	Thiago Silva	33 Purandhara, Pokhara	9801211345
Edit Delete	C0018	Kushal Gurung	20 Gaundakomukh-13, Pokhara	9801111111
Edit Delete	C0019	Kai Havertz	21 Dhungesau, Pokhara	9800145567
Edit Delete	C0020	Toni Rudiger	27 Shanti Tole, Pokhara	9846098710
Edit Delete	C0021	Jose Mourinho	51 Charange, Butwal	9806618256
Edit Delete	C0022	Antonio Conte	48 Maitri Path, Butwal	9801087790
Edit Delete	C0023	Roman Abramovich	56 Amar Path, Butwal	9802176889
Edit Delete	C0024	Mr. Roy Keane	50 Laliguras, Pokhara	9812388911

Figure 92: Before deleting data in Customer Details webform

❖ After deleting data

Customer Details:				
	CUSTOMER ID	CUSTOMER NAME	AGE ADDRESS	CONTACT NUMBER
Edit Delete	C0001	Callum Hudson Odoi	19 Sital Devi-12, Pokhara	9801191111
Edit Delete	C0002	Eden Hazard	29 Bhajapatan-13, Pokhara	9801111111
Edit Delete	C0003	Mason Mount	21 Ranipauwa-11, Pokhara	4499089809
Edit Delete	C0004	David Beckham	45 Bijaypur-10, Pokhara	9807765410
Edit Delete	C0005	Paulo Dybala	30 Laliguras, Pokhara	9815167809
Edit Delete	C0006	Timo Werner	24 Amarsingh, Pokhara	9819109870
Edit Delete	C0007	Hakim Ziyech	28 Hospital Chowk, Pokhara	9800987610
Edit Delete	C0008	Neymar Jr	27 Lakeside, Pokhara	9890876100
Edit Delete	C0009	Tammy Abraham	22 Mahendra Pool, Pokhara	9890198001
Edit Delete	C0010	Cristiano Ronaldo	33 Chapapani-12, Pokhara	9801176856
Edit Delete	C0011	Romeo Lukaku	28 Prithvi Chowk, Pokhara	9800000059
Edit Delete	C0012	Karim Benzema	30 Milan Tole, Pokhara	9111126855
Edit Delete	C0013	Zlatan Ibrahimovich	35 Sangam Tole, Pokhara	9819176816
Edit Delete	C0014	Billy Gilmour	19 Srijana Chowk, Pokhara	9801188760
Edit Delete	C0015	Marcos Alonso	28 Chisapani-13, Pokhara	9809876781
Edit Delete	C0016	Reece James	20 Miyapatan-13, Pokhara	9801667800
Edit Delete	C0017	Thiago Silva	33 Purandhara, Pokhara	9801211345
Edit Delete	C0018	Kushal Gurung	20 Gaundakomukh-13, Pokhara	9801111111
Edit Delete	C0019	Kai Havertz	21 Dhungesau, Pokhara	9800145567
Edit Delete	C0020	Toni Rudiger	27 Shanti Tole, Pokhara	9846098710
Edit Delete	C0021	Jose Mourinho	51 Charange, Butwal	9806618256
Edit Delete	C0022	Antonio Conte	48 Maitri Path, Butwal	9801087790
Edit Delete	C0023	Roman Abramovich	56 Amar Path, Butwal	9802176889

Figure 93: After deleting data in Customer Details webform

## 7.6 Loyalty Points Details webform

### Test case: 12

<b>Objective</b>	To check whether data will be inserted in the grid view or not.
<b>Action</b>	Values were entered in each text box.
<b>Expected Result</b>	Data will be inserted in the grid view.
<b>Actual Result</b>	Data were successfully inserted in the grid view.
<b>Conclusion</b>	Test was successful.

Table 37: Test case 12

#### ❖ Before inserting data

Loyalty Details:				
LOYALTY ID	DESCRIPTION	LOYALTY POINTS	DISH CODE	RESTAURANT ID
Edit Delete 2021L001	This loyalty is for Mixed Chatamari dish of Dunga Restro restaurant. It has 5 loyalty points.	5	MIXCHT	R1003
Edit Delete 2021L002	This loyalty is for Chicken Momo dish of Feels Good restaurant. It has 5 loyalty points.	5	CHKMO	R1001
Edit Delete 2021L003	This loyalty is for Vegetable Pasta dish of Thakali restaurant. It has 3 loyalty points.	3	VEGPAS	R1002
Edit Delete 2021L004	This loyalty is for Buff Chowmin dish of Anaki restaurant. It has 5 loyalty points.	5	BUFCH	R1004
Edit Delete 2021L005	This loyalty is for Mixed Pizza dish of Bay Leaf restaurant. It has 10 loyalty points.	10	MIXPIZ	R1005
Edit Delete 2021L006	This loyalty is for Chicken Shapale dish of Sherpa Kitchen restaurant. It has 2 loyalty points.	2	CHKSHA	R1006
Edit Delete 2021L007	This loyalty is for Beef Nan dish of Shantiko Kitchen restaurant. It has 1 loyalty point.	1	BEENAN	R1007
Edit Delete 2021L008	This loyalty is for Chicken Thakali Khana dish of Greasy Spoon restaurant. It has 10 loyalty points.	10	CHKTHA	R1008
Edit Delete 2021L009	This loyalty is for Masala Dosa dish of Jalapeno restaurant. It has 7 loyalty points.	7	MASDOS	R1009
Edit Delete 2021L010	This loyalty is for Chicken Chilli dish of Eat Street restaurant. It has 4 loyalty points.	4	CHKCHI	R1010

Figure 94: Before inserting data in Loyalty Points Details webform

#### ❖ While inserting data

LOYALTY ID	DESCRIPTION	LOYALTY POINTS	DISH CODE	RESTAURANT ID
Edit Delete 2021L001	This loyalty is for Mixed Chatamari dish of Dunga Restro restaurant. It has 5 loyalty points.	5	MIXCHT	R1003
Edit Delete 2021L002	This loyalty is for Chicken Momo dish of Feels Good restaurant. It has 5 loyalty points.	5	CHKMO	R1001
Edit Delete 2021L003	This loyalty is for Vegetable Pasta dish of Thakali restaurant. It has 3 loyalty points.	3	VEGPAS	R1002
Edit Delete 2021L004	This loyalty is for Buff Chowmin dish of Anaki restaurant. It has 5 loyalty points.	5	BUFCH	R1004
Edit Delete 2021L005	This loyalty is for Mixed Pizza dish of Bay Leaf restaurant. It has 10 loyalty points.	10	MIXPIZ	R1005
Edit Delete 2021L006	This loyalty is for Chicken Shapale dish of Sherpa Kitchen restaurant. It has 2 loyalty points.	2	CHKSHA	R1006
Edit Delete 2021L007	This loyalty is for Beef Nan dish of Shantiko Kitchen restaurant. It has 1 loyalty point.	1	BEENAN	R1007
Edit Delete 2021L008	This loyalty is for Chicken Thakali Khana dish of Greasy Spoon restaurant. It has 10 loyalty points.	10	CHKTHA	R1008
Edit Delete 2021L009	This loyalty is for Masala Dosa dish of Jalapeno restaurant. It has 7 loyalty points.	7	MASDOS	R1009
Edit Delete 2021L010	This loyalty is for Chicken Chilli dish of Eat Street restaurant. It has 4 loyalty points.	4	CHKCHI	R1010

Figure 95: While inserting data in Loyalty Points Details webform

❖ After inserting data

Loyalty Details:		LOYALTY ID	DESCRIPTION	LOYALTY POINTS	DISH CODE	RESTAURANT ID
Edit	Delete	2021L001	This loyalty is for Mixed Chatamari dish of Dunga Restro restaurant. It has 5 loyalty points.	5	MIXCHT	R1003
Edit	Delete	2021L002	This loyalty is for Chicken Momo dish of Feels Good restaurant. It has 5 loyalty points.	5	CHKMO	R1001
Edit	Delete	2021L003	This loyalty is for Vegetable Pasta dish of Thakali restaurant. It has 3 loyalty points.	3	VEGPAS	R1002
Edit	Delete	2021L004	This loyalty is for Buff Chowmin dish of Anaki restaurant. It has 5 loyalty points.	5	BUFCH	R1004
Edit	Delete	2021L005	This loyalty is for Mixed Pizza dish of Bay Leaf restaurant. It has 10 loyalty points.	10	MIXPIZ	R1005
Edit	Delete	2021L006	This loyalty is for Chicken Shapale dish of Sherpa Kitchen restaurant. It has 2 loyalty points.	2	CHKSHA	R1006
Edit	Delete	2021L007	This loyalty is for Beef Nan dish of Shantiko Kitchen restaurant. It has 1 loyalty point.	1	BEENAN	R1007
Edit	Delete	2021L008	This loyalty is for Chicken Thakali Khana dish of Greasy Spoon restaurant. It has 10 loyalty points.	10	CHKTHA	R1008
Edit	Delete	2021L009	This loyalty is for Masala Dosa dish of Jalapeno restaurant. It has 7 loyalty points.	7	MASDOS	R1009
Edit	Delete	2021L010	This loyalty is for Chicken Chilli dish of Eat Street restaurant. It has 4 loyalty points.	4	CHKCHI	R1010
Edit	Delete	2021L011	This loyalty is for Mixed Pizza dish of Feels Good restaurant. It has 9 loyalty points.	9	MIXPIZ	R1001

Figure 96: After inserting data in Loyalty Points Details webform

**Test case: 13**

<b>Objective</b>	To check whether data in the grid view will be updated or not.
<b>Action</b>	Edit button was clicked in the grid view and data were edited for loyalty id '2021L011'.
<b>Expected Result</b>	Data will be updated in the grid view.
<b>Actual Result</b>	Data were successfully updated in the grid view.
<b>Conclusion</b>	Test was successful.

Table 38: Test case 13

❖ Before updating data

Loyalty Details:		LOYALTY ID	DESCRIPTION	LOYALTY POINTS	DISH CODE	RESTAURANT ID
Edit	Delete	2021L001	This loyalty is for Mixed Chatamari dish of Dunga Restro restaurant. It has 5 loyalty points.	5	MIXCHT	R1003
Edit	Delete	2021L002	This loyalty is for Chicken Momo dish of Feels Good restaurant. It has 5 loyalty points.	5	CHKMO	R1001
Edit	Delete	2021L003	This loyalty is for Vegetable Pasta dish of Thakali restaurant. It has 3 loyalty points.	3	VEGPAS	R1002
Edit	Delete	2021L004	This loyalty is for Buff Chowmin dish of Anaki restaurant. It has 5 loyalty points.	5	BUFCH	R1004
Edit	Delete	2021L005	This loyalty is for Mixed Pizza dish of Bay Leaf restaurant. It has 10 loyalty points.	10	MIXPIZ	R1005
Edit	Delete	2021L006	This loyalty is for Chicken Shapale dish of Sherpa Kitchen restaurant. It has 2 loyalty points.	2	CHKSHA	R1006
Edit	Delete	2021L007	This loyalty is for Beef Nan dish of Shantiko Kitchen restaurant. It has 1 loyalty point.	1	BEENAN	R1007
Edit	Delete	2021L008	This loyalty is for Chicken Thakali Khana dish of Greasy Spoon restaurant. It has 10 loyalty points.	10	CHKTHA	R1008
Edit	Delete	2021L009	This loyalty is for Masala Dosa dish of Jalapeno restaurant. It has 7 loyalty points.	7	MASDOS	R1009
Edit	Delete	2021L010	This loyalty is for Chicken Chilli dish of Eat Street restaurant. It has 4 loyalty points.	4	CHKCHI	R1010
Edit	Delete	2021L011	This loyalty is for Mixed Pizza dish of Feels Good restaurant. It has 9 loyalty points.	9	MIXPIZ	R1001

Figure 97: Before updating data in Loyalty Points Details webform

❖ While updating data

Loyalty Details:		LOYALTY ID	DESCRIPTION	LOYALTY POINTS	DISH CODE	RESTAURANT ID
Edit	Delete	2021L001	This loyalty is for Mixed Chatamari dish of Dunga Restro restaurant. It has 5 loyalty points.	5	MIXCHT	R1003
Edit	Delete	2021L002	This loyalty is for Chicken Momo dish of Feels Good restaurant. It has 5 loyalty points.	5	CHKMO	R1001
Edit	Delete	2021L003	This loyalty is for Vegetable Pasta dish of Thakali restaurant. It has 3 loyalty points.	3	VEGPAS	R1002
Edit	Delete	2021L004	This loyalty is for Buff Chowmin dish of Anaki restaurant. It has 5 loyalty points.	5	BUFCH	R1004
Edit	Delete	2021L005	This loyalty is for Mixed Pizza dish of Bay Leaf restaurant. It has 10 loyalty points.	10	MIXPIZ	R1005
Edit	Delete	2021L006	This loyalty is for Chicken Shapale dish of Sherpa Kitchen restaurant. It has 2 loyalty points.	2	CHKSHA	R1006
Edit	Delete	2021L007	This loyalty is for Beef Nan dish of Shantiko Kitchen restaurant. It has 1 loyalty point.	1	BEENAN	R1007
Edit	Delete	2021L008	This loyalty is for Chicken Thakali Khana dish of Greasy Spoon restaurant. It has 10 loyalty points.	10	CHKTHA	R1008
Edit	Delete	2021L009	This loyalty is for Masala Dosa dish of Jalapeno restaurant. It has 7 loyalty points.	7	MASDOS	R1009
Edit	Delete	2021L010	This loyalty is for Chicken Chilli dish of Eat Street restaurant. It has 4 loyalty points.	4	CHKCHI	R1010
Update	Cancel	2021L011	restaurant. It has 11 loyalty points.	11	MIXPIZ	R1001

Figure 98: While updating data in Loyalty Points Details webform

❖ After updating data

Loyalty Details:		LOYALTY ID	DESCRIPTION	LOYALTY POINTS	DISH CODE	RESTAURANT ID
Edit	Delete	2021L001	This loyalty is for Mixed Chatamari dish of Dunga Restro restaurant. It has 5 loyalty points.	5	MIXCHT	R1003
Edit	Delete	2021L002	This loyalty is for Chicken Momo dish of Feels Good restaurant. It has 5 loyalty points.	5	CHKMO	R1001
Edit	Delete	2021L003	This loyalty is for Vegetable Pasta dish of Thakali restaurant. It has 3 loyalty points.	3	VEGPAS	R1002
Edit	Delete	2021L004	This loyalty is for Buff Chowmin dish of Anaki restaurant. It has 5 loyalty points.	5	BUFCH	R1004
Edit	Delete	2021L005	This loyalty is for Mixed Pizza dish of Bay Leaf restaurant. It has 10 loyalty points.	10	MIXPIZ	R1005
Edit	Delete	2021L006	This loyalty is for Chicken Shapale dish of Sherpa Kitchen restaurant. It has 2 loyalty points.	2	CHKSHA	R1006
Edit	Delete	2021L007	This loyalty is for Beef Nan dish of Shantiko Kitchen restaurant. It has 1 loyalty point.	1	BEENAN	R1007
Edit	Delete	2021L008	This loyalty is for Chicken Thakali Khana dish of Greasy Spoon restaurant. It has 10 loyalty points.	10	CHKTHA	R1008
Edit	Delete	2021L009	This loyalty is for Masala Dosa dish of Jalapeno restaurant. It has 7 loyalty points.	7	MASDOS	R1009
Edit	Delete	2021L010	This loyalty is for Chicken Chilli dish of Eat Street restaurant. It has 4 loyalty points.	4	CHKCHI	R1010
Update	Cancel	2021L011	restaurant. It has 11 loyalty points.	11	MIXPIZ	R1001

Figure 99: After updating data in Loyalty Points Details webform

**Test case: 14**

<b>Objective</b>	To check whether data in the grid view will be deleted or not.
<b>Action</b>	Delete button was clicked in the grid view for loyalty id '2021L011'.
<b>Expected Result</b>	Data will be deleted in the grid view.
<b>Actual Result</b>	Data was successfully deleted in the grid view.
<b>Conclusion</b>	Test was successful.

Table 39: Test case 14

❖ Before deleting data

Loyalty Details:		LOYALTY ID	DESCRIPTION	LOYALTY POINTS	DISH CODE	RESTAURANT ID
Edit	Delete	2021L001	This loyalty is for Mixed Chatamari dish of Dunga Restro restaurant. It has 5 loyalty points.	5	MIXCHT	R1003
Edit	Delete	2021L002	This loyalty is for Chicken Momo dish of Feels Good restaurant. It has 5 loyalty points.	5	CHKMO	R1001
Edit	Delete	2021L003	This loyalty is for Vegetable Pasta dish of Thakali restaurant. It has 3 loyalty points.	3	VEGPAS	R1002
Edit	Delete	2021L004	This loyalty is for Buff Chowmin dish of Anaki restaurant. It has 5 loyalty points.	5	BUFCH	R1004
Edit	Delete	2021L005	This loyalty is for Mixed Pizza dish of Bay Leaf restaurant. It has 10 loyalty points.	10	MIXPIZ	R1005
Edit	Delete	2021L006	This loyalty is for Chicken Shapale dish of Sherpa Kitchen restaurant. It has 2 loyalty points.	2	CHKSHA	R1006
Edit	Delete	2021L007	This loyalty is for Beef Nan dish of Shantiko Kitchen restaurant. It has 1 loyalty point.	1	BEENAN	R1007
Edit	Delete	2021L008	This loyalty is for Chicken Thakali Khana dish of Greasy Spoon restaurant. It has 10 loyalty points.	10	CHKTHA	R1008
Edit	Delete	2021L009	This loyalty is for Masala Dosa dish of Jalapeno restaurant. It has 7 loyalty points.	7	MASDOS	R1009
Edit	Delete	2021L010	This loyalty is for Chicken Chilli dish of Eat Street restaurant. It has 4 loyalty points.	4	CHKCHI	R1010
Edit	Delete	2021L011	This loyalty is for Mixed Pizza dish of Feels Good restaurant. It has 11 loyalty points.	11	MIXPIZ	R1001

Figure 100: Before deleting data in Loyalty Points Details webform

❖ After deleting data

Loyalty Details:			LOYALTY POINTS	DISH CODE	RESTAURANT ID
LOYALTY ID	DESCRIPTION				
Edit Delete 2021L001	This loyalty is for Mixed Chatamari dish of Dunga Restro restaurant. It has 5 loyalty points.		5	MIXCHT	R1003
Edit Delete 2021L002	This loyalty is for Chicken Momo dish of Feels Good restaurant. It has 5 loyalty points.		5	CHKMO	R1001
Edit Delete 2021L003	This loyalty is for Vegetable Pasta dish of Thakali restaurant. It has 3 loyalty points.		3	VEGPAS	R1002
Edit Delete 2021L004	This loyalty is for Buff Chowmin dish of Anaki restaurant. It has 5 loyalty points.		5	BUFCH	R1004
Edit Delete 2021L005	This loyalty is for Mixed Pizza dish of Bay Leaf restaurant. It has 10 loyalty points.		10	MIXPIZ	R1005
Edit Delete 2021L006	This loyalty is for Chicken Shapale dish of Sherpa Kitchen restaurant. It has 2 loyalty points.		2	CHKSHA	R1006
Edit Delete 2021L007	This loyalty is for Beef Nan dish of Shantiko Kitchen restaurant. It has 1 loyalty point.		1	BEENAN	R1007
Edit Delete 2021L008	This loyalty is for Chicken Thakali Khana dish of Greasy Spoon restaurant. It has 10 loyalty points.		10	CHKTHA	R1008
Edit Delete 2021L009	This loyalty is for Masala Dosa dish of Jalapeno restaurant. It has 7 loyalty points.		7	MASDOS	R1009
Edit Delete 2021L010	This loyalty is for Chicken Chilli dish of Eat Street restaurant. It has 4 loyalty points.		4	CHKCHI	R1010

Figure 101: After deleting data in Loyalty Points Details webform

## 7.7 Delivery Address Details webform

Test case: 15

<b>Objective</b>	To check whether data will be inserted in the grid view or not.
<b>Action</b>	Values were entered in each text box.
<b>Expected Result</b>	Data will be inserted in the grid view.
<b>Actual Result</b>	Data were successfully inserted in the grid view.
<b>Conclusion</b>	Test was successful.

Table 40: Test case 15

❖ Before inserting data

Delivery Address Details:				
	DELIVERY ID	DELIVERY POINT	DELIVERY TIME	DELIVERY COST
Edit Delete	D001	Gaundakomukh-13, Pokhara	30 minutes	1500
Edit Delete	D002	Matepani-12, Pokhara	40 minutes	1600
Edit Delete	D003	Mahendra Pool, Pokhara	20 minutes	1000
Edit Delete	D004	Lakeside, Pokhara	40 minutes	2000
Edit Delete	D005	Hospital Chowk, Pokhara	10 minutes	500
Edit Delete	D006	Amarsingh, Pokhara	15 minutes	1200
Edit Delete	D007	Kahun, Chitwan	25 minutes	1000
Edit Delete	D008	Narayanghat, Chitwan	30 minutes	1300
Edit Delete	D009	Naghdhunga-08, Pokhara	30 minutes	1600
Edit Delete	D010	Sundhara, Kathmandu	10 minutes	500

Figure 102: Before inserting data in Delivery Address Details webform

❖ While inserting data

The screenshot shows a web-based application interface for managing delivery addresses. At the top, there is a navigation bar with tabs: GoodFood, Dish, Customer, Restaurant, Loyalty, Address, Customer Order, and Dish. Below the navigation bar, there is a form for entering delivery details. The form fields are:

- Delivery ID: D011
- Delivery Point: Kalikapath, Tinkune
- Delivery Time: 20 minutes
- Delivery Cost: 1000

Below the form is a green "Save" button. Underneath the form, there is a section titled "Delivery Address Details:" which contains a table with 11 rows of data. The table has columns for Delivery ID, Delivery Point, Delivery Time, and Delivery Cost. The last row of the table is highlighted in yellow.

	<b>DELIVERY ID</b>	<b>DELIVERY POINT</b>	<b>DELIVERY TIME</b>	<b>DELIVERY COST</b>
Edit	D001	Gaundakomukh-13, Pokhara	30 minutes	1500
Edit	D002	Matepani-12, Pokhara	40 minutes	1600
Edit	D003	Mahendra Pool, Pokhara	20 minutes	1000
Edit	D004	Lakeside, Pokhara	40 minutes	2000
Edit	D005	Hospital Chowk, Pokhara	10 minutes	500
Edit	D006	Amarsingh, Pokhara	15 minutes	1200
Edit	D007	Kahun, Chitwan	25 minutes	1000
Edit	D008	Narayanghat, Chitwan	30 minutes	1300
Edit	D009	Naghdhunga-08, Pokhara	30 minutes	1600
Edit	D010	Sundhara, Kathmandu	10 minutes	500

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Figure 103: While inserting data in Delivery Address Details webform

❖ After inserting data

The screenshot shows the same web-based application interface as Figure 103, but now with a new entry added to the list of delivery addresses. The table now has 12 rows of data. The last row, which was previously highlighted in yellow, now contains the new entry: Delivery ID D011, Delivery Point Kalikapath, Tinkune, Delivery Time 20 minutes, and Delivery Cost 1000. The rest of the data remains the same as in Figure 103.

	<b>DELIVERY ID</b>	<b>DELIVERY POINT</b>	<b>DELIVERY TIME</b>	<b>DELIVERY COST</b>
Edit	D001	Gaundakomukh-13, Pokhara	30 minutes	1500
Edit	D002	Matepani-12, Pokhara	40 minutes	1600
Edit	D003	Mahendra Pool, Pokhara	20 minutes	1000
Edit	D004	Lakeside, Pokhara	40 minutes	2000
Edit	D005	Hospital Chowk, Pokhara	10 minutes	500
Edit	D006	Amarsingh, Pokhara	15 minutes	1200
Edit	D007	Kahun, Chitwan	25 minutes	1000
Edit	D008	Narayanghat, Chitwan	30 minutes	1300
Edit	D009	Naghdhunga-08, Pokhara	30 minutes	1600
Edit	D010	Sundhara, Kathmandu	10 minutes	500
Edit	D011	Kalikapath, Tinkune	20 minutes	1000

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Figure 104: After inserting data in Delivery Address Details webform

**Test case: 16**

<b>Objective</b>	To check whether data in the grid view will be updated or not.
<b>Action</b>	Edit button was clicked in the grid view and data were edited for delivery id 'D011'.
<b>Expected Result</b>	Data will be updated in the grid view.
<b>Actual Result</b>	Data were successfully updated in the grid view.
<b>Conclusion</b>	Test was successful.

*Table 41: Test case 16*

- ❖ Before updating data

Delivery Address Details:				
	DELIVERY ID	DELIVERY POINT	DELIVERY TIME	DELIVERY COST
Edit Delete	D001	Gaundakomukh-13, Pokhara	30 minutes	1500
Edit Delete	D002	Matepani-12, Pokhara	40 minutes	1600
Edit Delete	D003	Mahendra Pool, Pokhara	20 minutes	1000
Edit Delete	D004	Lakeside, Pokhara	40 minutes	2000
Edit Delete	D005	Hospital Chowk, Pokhara	10 minutes	500
Edit Delete	D006	Amarsingh, Pokhara	15 minutes	1200
Edit Delete	D007	Kahun, Chitwan	25 minutes	1000
Edit Delete	D008	Narayanghat, Chitwan	30 minutes	1300
Edit Delete	D009	Naghdhunga-08, Pokhara	30 minutes	1600
Edit Delete	D010	Sundhara, Kathmandu	10 minutes	500
Edit Delete	D011	Kalikapath, Tinkune	20 minutes	1000

*Figure 105: Before updating data in Delivery Address Details webform*

- ❖ While updating data

Delivery Address Details:				
	DELIVERY ID	DELIVERY POINT	DELIVERY TIME	DELIVERY COST
Edit Delete	D001	Gaundakomukh-13, Pokhara	30 minutes	1500
Edit Delete	D002	Matepani-12, Pokhara	40 minutes	1600
Edit Delete	D003	Mahendra Pool, Pokhara	20 minutes	1000
Edit Delete	D004	Lakeside, Pokhara	40 minutes	2000
Edit Delete	D005	Hospital Chowk, Pokhara	10 minutes	500
Edit Delete	D006	Amarsingh, Pokhara	15 minutes	1200
Edit Delete	D007	Kahun, Chitwan	25 minutes	1000
Edit Delete	D008	Narayanghat, Chitwan	30 minutes	1300
Edit Delete	D009	Naghdhunga-08, Pokhara	30 minutes	1600
Edit Delete	D010	Sundhara, Kathmandu	10 minutes	500
Update Cancel	D011	Kalikapath, Tinkune	30 minutes	1300

*Figure 106: While updating data in Delivery Address Details webform*

❖ After updating data

Delivery Address Details:				
	DELIVERY ID	DELIVERY POINT	DELIVERY TIME	DELIVERY COST
Edit	D001	Gaundakomukh-13, Pokhara	30 minutes	1500
Edit	D002	Matepani-12, Pokhara	40 minutes	1600
Edit	D003	Mahendra Pool, Pokhara	20 minutes	1000
Edit	D004	Lakeside, Pokhara	40 minutes	2000
Edit	D005	Hospital Chowk, Pokhara	10 minutes	500
Edit	D006	Amarsingh, Pokhara	15 minutes	1200
Edit	D007	Kahun, Chitwan	25 minutes	1000
Edit	D008	Narayanghat, Chitwan	30 minutes	1300
Edit	D009	Naghdhunga-08, Pokhara	30 minutes	1600
Edit	D010	Sundhara, Kathmandu	10 minutes	500
Edit	D011	Kalikapath, Tinkune	30 minutes	1300

Figure 107: After updating data in Delivery Address Details webform

**Test case: 17**

<b>Objective</b>	To check whether data in the grid view will be deleted or not.
<b>Action</b>	Delete button was clicked in the grid view for delivery id 'D011'.
<b>Expected Result</b>	Data will be deleted in the grid view.
<b>Actual Result</b>	Data was successfully deleted in the grid view.
<b>Conclusion</b>	Test was successful.

Table 42: Test case 17

❖ Before deleting data

Delivery Address Details:				
	DELIVERY ID	DELIVERY POINT	DELIVERY TIME	DELIVERY COST
Edit	D001	Gaundakomukh-13, Pokhara	30 minutes	1500
Edit	D002	Matepani-12, Pokhara	40 minutes	1600
Edit	D003	Mahendra Pool, Pokhara	20 minutes	1000
Edit	D004	Lakeside, Pokhara	40 minutes	2000
Edit	D005	Hospital Chowk, Pokhara	10 minutes	500
Edit	D006	Amarsingh, Pokhara	15 minutes	1200
Edit	D007	Kahun, Chitwan	25 minutes	1000
Edit	D008	Narayanghat, Chitwan	30 minutes	1300
Edit	D009	Naghdhunga-08, Pokhara	30 minutes	1600
Edit	D010	Sundhara, Kathmandu	10 minutes	500
Edit	D011	Kalikapath, Tinkune	30 minutes	1300

Figure 108: Before deleting data in Delivery Address Details webform

❖ After deleting data

Delivery Address Details:				
	DELIVERY ID	DELIVERY POINT	DELIVERY TIME	DELIVERY COST
Edit	D001	Gaundakomukh-13, Pokhara	30 minutes	1500
Delete	D002	Matepani-12, Pokhara	40 minutes	1600
Edit	D003	Mahendra Pool, Pokhara	20 minutes	1000
Delete	D004	Lakeside, Pokhara	40 minutes	2000
Edit	D005	Hospital Chowk, Pokhara	10 minutes	500
Delete	D006	Amarsingh, Pokhara	15 minutes	1200
Edit	D007	Kahun, Chitwan	25 minutes	1000
Delete	D008	Narayanghat, Chitwan	30 minutes	1300
Edit	D009	Naghdhunga-08, Pokhara	30 minutes	1600
Delete	D010	Sundhara, Kathmandu	10 minutes	500

Figure 109: After deleting data in Delivery Address Details webform

## 7.8 Customer-Order Details webform

### Test case: 18

<b>Objective</b>	To check whether delivery point of a specific customer will be displayed or not.
<b>Action</b>	<p>a. First, customer name was selected. Then, customer's ID was displayed in the customer ID text box. At the same time, order detail for that particular customer was also displayed in the grid view.</p> <p>b. Then, "Get Delivery Point" button was clicked.</p>
<b>Expected Result</b>	Delivery ID and delivery point will be displayed in their respective text boxes.
<b>Actual Result</b>	Delivery ID and delivery point were successfully displayed in their respective text boxes.
<b>Conclusion</b>	Test was successful.

Table 43: Test case 18

❖ Before selecting customer's name

ORDER NUMBER	SN	ORDER DATE	ORDER AMOUNT	CUSTOMER ID	DELIVERY ID	DISH CODE	RESTAURANT ID	STATUS
09-00232		11/12/2020 12:00:00 AM	1700	C0001	D002	CHKMO	R1001	On Time
09-00233		11/12/2020 12:00:00 AM	750	C0002	D001	MIXCHT	R1002	Early
09-00234		11/13/2020 12:00:00 AM	500	C0003	D004	BEENAN	R1003	Late
09-00235		11/15/2020 12:00:00 AM	900	C0004	D003	BUFCH	R1004	On Time
09-00236		2020-11-223316	700	C0005	D006	CHKCHI	R1005	On Time
09-00237		2020-11-223317	610	C0006	D005	CHKSHA	R1006	On Time
09-00238		2020-11-223318	1010	C0007	D008	CHKTHA	R1007	Late
09-00239		2020-12-223319	490	C0008	D007	MASDOS	R1008	On Time
09-00240		2020-12-223320	740	C0009	D010	MIXPIZ	R1009	On Time
09-00241		12/24/2020 12:00:00 AM	940	C0010	D009	VEGPAS	R1010	On Time
09-00242		2020-11-223321	700	C0011	D002	CHKMO	R1010	On Time
09-00243		2020-11-223323	900	C0012	D003	BUFCH	R1010	On Time
09-00244		2020-11-223324	900	C0013	D006	VEGPAS	R1009	On Time
09-00245		2020-11-223325	1200	C0014	D005	CHKMO	R1009	On Time
09-00246		2020-11-223326	300	C0015	D007	CHKMO	R1007	On Time
09-00247		2020-11-223327	550	C0016	D002	MIXCHT	R1007	On Time
09-00248		2020-11-223328	725	C0017	D005	CHKTHA	R1001	On Time
09-00249		2020-11-223329	325	C0018	D006	CHKSHA	R1006	Late
09-00250		2020-11-223330	450	C0019	D007	MIXPIZ	R1006	Late
09-00251		2020-11-223331	330	C0020	D008	VEGPAS	R1006	On Time
09-00252		2020-11-223332	570	C0021	D003	MIXCHT	R1006	On Time
09-00253		2020-11-223333	225	C0022	D005	BUFCH	R1006	On Time
09-00254		2020-11-223334	325	C0023	D007	MIXCHT	R1009	On Time

Figure 110: Before selecting customer's name

❖ While selecting customer's name

ORDER NUMBER	SN	ORDER DATE	ORDER AMOUNT	CUSTOMER ID	DELIVERY ID	DISH CODE	RESTAURANT ID	STATUS
09-00232		11/12/2020 12:00:00 AM	1700	C0001	D002	CHKMO	R1001	On Time
09-00233		11/12/2020 12:00:00 AM	750	C0002	D001	MIXCHT	R1002	Early
09-00234		11/13/2020 12:00:00 AM	500	C0003	D004	BEENAN	R1003	Late
09-00235		11/15/2020 12:00:00 AM	900	C0004	D003	BUFCH	R1004	On Time
09-00236		11/16/2020 12:00:00 AM	700	C0005	D006	CHKCHI	R1005	On Time
09-00237		11/16/2020 12:00:00 AM	610	C0006	D005	CHKSHA	R1006	On Time
09-00238		11/16/2020 12:00:00 AM	1010	C0007	D008	CHKTHA	R1007	Late
09-00239		12/10/2020 12:00:00 AM	490	C0008	D007	MASDOS	R1008	On Time
09-00240		12/11/2020 12:00:00 AM	740	C0009	D010	MIXPIZ	R1009	On Time
09-00241		12/24/2020 12:00:00 AM	940	C0010	D009	VEGPAS	R1010	On Time
09-00242		2020-11-223321	700	C0011	D002	CHKMO	R1010	On Time
09-00243		2020-11-223323	900	C0012	D003	BUFCH	R1010	On Time
09-00244		2020-11-223324	900	C0013	D006	VEGPAS	R1009	On Time
09-00245		2020-11-223325	1200	C0014	D005	CHKMO	R1009	On Time
09-00246		2020-11-223326	300	C0015	D007	CHKMO	R1007	On Time
09-00247		2020-11-223327	550	C0016	D002	MIXCHT	R1007	On Time
09-00248		2020-11-223328	725	C0017	D005	CHKTHA	R1001	On Time
09-00249		2020-11-223329	325	C0018	D006	CHKSHA	R1006	Late
09-00250		2020-11-223330	450	C0019	D007	MIXPIZ	R1006	Late
09-00251		2020-11-223331	330	C0020	D008	VEGPAS	R1006	On Time
09-00252		2020-11-223332	570	C0021	D003	MIXCHT	R1006	On Time
09-00253		2020-11-223333	225	C0022	D005	BUFCH	R1006	On Time
09-00254		2020-11-223334	325	C0023	D007	MIXCHT	R1009	On Time

Figure 111: While selecting customer's name

- ❖ After selecting customer's name

The screenshot shows a web-based application interface for 'GoodFood'. At the top, there is a navigation bar with links: GoodFood, Dish, Customer, Restaurant, Loyalty, Address, Customer Order, Dish Search, and Order Activity. Below the navigation bar, there are two input fields: 'Customer Name' (dropdown menu showing 'Mason Mount') and 'Customer ID' (text input field showing 'C0003'). A section titled 'Order Details' displays a grid of order information:

ORDER NUMBER	SN	ORDER DATE	ORDER AMOUNT	CUSTOMER ID	DELIVERY ID	DISH CODE	RESTAURANT ID	STATUS
09-00234	2020-11-223314	11/13/2020 12:00:00 AM	500	C0003	D004	BEENAN	R1003	Late

Below the grid is a green button labeled 'Get Delivery Point'. Further down, there are two input fields: 'Delivery ID' (text input field showing 'D004') and 'Delivery Point' (text input field showing 'Lakeside, Pokhara'). At the bottom left, there is a copyright notice: '© 2021 GoodFood Pvt. Ltd.'

Figure 112: After selecting customer's name

- ❖ After clicking on “Get Delivery Point” button

This screenshot is similar to Figure 112 but shows the result of clicking the 'Get Delivery Point' button. The 'Delivery Point' field now contains the value 'Lakeside, Pokhara'.

Figure 113: After clicking on "Get Delivery Point" button

## 7.9 Dish Search webform

**Test case: 19**

<b>Objective</b>	To check whether details of dish and restaurant for a selected dish will be displayed or not.
<b>Action</b>	First, customer name was selected. Then, dish name was selected.
<b>Expected Result</b>	Details of dish and restaurant for a selected dish will be displayed in the grid view.
<b>Actual Result</b>	Details of dish and restaurant for a selected dish were successfully displayed in the grid view.
<b>Conclusion</b>	Test was successful.

Table 44: Test case 19

❖ Before selecting customer and dish name

The screenshot shows the GoodFood application's search interface. At the top, there are dropdown menus for 'Customer Name' (set to 'Callum Hudson Odoi') and 'Dish Name' (set to 'Chicken Momo'). Below these are input fields for 'Dish Code' and 'Address'. A large table displays 'Dish and Restaurant Details' with columns: DISH CODE, DISH NAME, DISH RATE, RESTAURANT ID, and RESTAURANT NAME. The table contains numerous rows of data, including entries for various dishes like Chicken Momo, Mixed Chatamari, and Vegetable Pasta, along with their respective restaurant details.

DISH CODE	DISH NAME	DISH RATE	RESTAURANT ID	RESTAURANT NAME
CHKMO	Chicken Momo	395	R1003	Dunga Restro
CHKMO	Chicken Momo	370	R1002	Thakali
CHKMO	Chicken Momo	350	R1001	Feels Good
MIXCHT	Mixed Chatamari	460	R1003	Dunga Restro
MIXCHT	Mixed Chatamari	455	R1002	Thakali
MIXCHT	Mixed Chatamari	470	R1001	Feels Good
VEGPAS	Vegetable Pasta	135	R1006	Sherpa Kitchen
VEGPAS	Vegetable Pasta	155	R1005	Bay Leaf Restaurant
VEGPAS	Vegetable Pasta	150	R1004	Anaki Restaurant
BUFCH	Buff Chowmin	150	R1005	Bay Leaf Restaurant
BUFCH	Buff Chowmin	140	R1004	Anaki Restaurant
MIXPIZ	Mixed Pizza	325	R1007	Shantiko Kitchen
MIXPIZ	Mixed Pizza	325	R1006	Sherpa Kitchen
CHKSHA	Chicken Shapale	65	R1008	Greasy Spoon Restaurant
CHKSHA	Chicken Shapale	70	R1007	Shantiko Kitchen
BEENAN	Beef Nan	80	R1009	Jalapeno Restaurant
BEENAN	Beef Nan	75	R1008	Greasy Spoon Restaurant
CHKTHA	Chicken Thakali Khana	400	R1010	Eat Street
CHKTHA	Chicken Thakali Khana	335	R1009	Jalapeno Restaurant
MASDOS	Masala Dosa	260	R1010	Eat Street
MASDOS	Masala Dosa	250	R1001	Feels Good
CHKCHI	Chicken Chilli	310	R1010	Eat Street
CHKCHI	Chicken Chilli	300	R1009	Jalapeno Restaurant

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Figure 114: Before selecting customer and dish name

❖ While selecting customer name

The screenshot shows the GoodFood application's search interface. The 'Customer Name' dropdown menu is open, displaying a list of names: Callum Hudson Odoi, Eden Hazard, Mason Mount, David Beckham, Paulo Dybala, Timo Werner, Hakim Ziyech, Neymar Jr, Tammy Abraham, Cristiano Ronaldo, Romeo Lukaku, Karim Benzema, Zlatan Ibrahimovich, Billy Gilmour, Marcos Alonso, Reece James, Thiago Silva, Kushal Gurung, Kai Havertz, Toni Rudiger, and others. The name 'Kushal Gurung' is highlighted with a blue selection bar. The rest of the interface is similar to Figure 114, showing the dish search results for 'Chicken Momo'.

DISH CODE	DISH NAME	DISH RATE	RESTAURANT ID	RESTAURANT NAME
CHKMO	Chicken Momo	395	R1003	Dunga Restro
CHKMO	Chicken Momo	370	R1002	Thakali
CHKMO	Chicken Momo	350	R1001	Feels Good
MIXCHT	Mixed Chatamari	460	R1003	Dunga Restro
MIXCHT	Mixed Chatamari	455	R1002	Thakali
MIXCHT	Mixed Chatamari	470	R1001	Feels Good
VEGPAS	Vegetable Pasta	135	R1006	Sherpa Kitchen
VEGPAS	Vegetable Pasta	155	R1005	Bay Leaf Restaurant
VEGPAS	Vegetable Pasta	150	R1004	Anaki Restaurant
BUFCH	Buff Chowmin	150	R1005	Bay Leaf Restaurant
BUFCH	Buff Chowmin	140	R1004	Anaki Restaurant
MIXPIZ	Mixed Pizza	325	R1007	Shantiko Kitchen
MIXPIZ	Mixed Pizza	325	R1006	Sherpa Kitchen
CHKSHA	Chicken Shapale	65	R1008	Greasy Spoon Restaurant
CHKSHA	Chicken Shapale	70	R1007	Shantiko Kitchen
BEENAN	Beef Nan	80	R1009	Jalapeno Restaurant
BEENAN	Beef Nan	75	R1008	Greasy Spoon Restaurant
CHKTHA	Chicken Thakali Khana	400	R1010	Eat Street
CHKTHA	Chicken Thakali Khana	335	R1009	Jalapeno Restaurant
MASDOS	Masala Dosa	260	R1010	Eat Street
MASDOS	Masala Dosa	250	R1001	Feels Good
CHKCHI	Chicken Chilli	310	R1010	Eat Street
CHKCHI	Chicken Chilli	300	R1009	Jalapeno Restaurant

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Figure 115: While selecting customer name

❖ While selecting dish name

The screenshot shows the GoodFood application's main interface. At the top, there is a navigation bar with links: GoodFood, Dish, Customer, Restaurant, Loyalty, Address, Customer Order, Dish Search, and Order Ac. Below the navigation bar, there is a search bar labeled "Customer Name" with the value "Kushal Gurung". To the right of the search bar is a dropdown menu labeled "Dish Name" with the value "Vegetable Pasta" selected. Further to the right is a text input field labeled "Dish Code" with the value "VEGPAS". Below these controls is a table titled "Dish and Restaurant Details". The table has columns: DISH CODE, DISH NAME, DISH RATE, RESTAURANT ID, and RESTAURANT NAME. The data in the table is as follows:

DISH CODE	DISH NAME	DISH RATE	RESTAURANT ID	RESTAURANT NAME
CHKMO	Chicken Momo	395	R1003	Dunga Restro
CHKMO	Chicken Momo	370	R1002	Thakali
CHKMO	Mixed Chatamari	350	R1001	Feels Good
MIXCHT	Vegetable Pasta	460	R1003	Dunga Restro
MIXCHT	Buff Chowmin	455	R1002	Thakali
MIXCHT	Beef Nan	470	R1001	Feels Good
VEGPAS	Masala Dosa	135	R1006	Sherpa Kitchen
VEGPAS	Chatpate	155	R1005	Bay Leaf Restaurant
VEGPAS	Vegetable Pasta	150	R1004	Anaki Restaurant
BUFCH	Buff Chowmin	150	R1005	Bay Leaf Restaurant
BUFCH	Buff Chowmin	140	R1004	Anaki Restaurant
MIXPIZ	Mixed Pizza	325	R1007	Shantiko Kitchen
MIXPIZ	Mixed Pizza	325	R1006	Sherpa Kitchen
CHKSHA	Chicken Shapale	65	R1008	Greasy Spoon Restaurant
CHKSHA	Chicken Shapale	70	R1007	Shantiko Kitchen
BEENAN	Beef Nan	80	R1009	Jalapeno Restaurant
BEENAN	Beef Nan	75	R1008	Greasy Spoon Restaurant
CHKTHA	Chicken Thakali Khana	400	R1010	Eat Street
CHKTHA	Chicken Thakali Khana	335	R1009	Jalapeno Restaurant
MASDOS	Masala Dosa	260	R1010	Eat Street
MASDOS	Masala Dosa	250	R1001	Feels Good
CHKCHI	Chicken Chilli	310	R1010	Eat Street
CHKCHI	Chicken Chilli	300	R1009	Jalapeno Restaurant

At the bottom left of the interface, there is a copyright notice: "© 2021 GoodFood Pvt. Ltd."

Figure 116: While selecting dish name

❖ After selecting customer and dish name

The screenshot shows the GoodFood application's main interface after selecting a customer and dish name. The navigation bar and search bar are identical to Figure 116. The dropdown menu now shows "Vegetable Pasta" as the selected dish name. The text input field for "Dish Code" now contains "VEGPAS". Below these controls is a table titled "Dish and Restaurant Details". The table has columns: DISH CODE, DISH NAME, DISH RATE, RESTAURANT ID, and RESTAURANT NAME. The data in the table is as follows:

DISH CODE	DISH NAME	DISH RATE	RESTAURANT ID	RESTAURANT NAME
VEGPAS	Vegetable Pasta	150	R1004	Anaki Restaurant
VEGPAS	Vegetable Pasta	155	R1005	Bay Leaf Restaurant
VEGPAS	Vegetable Pasta	135	R1006	Sherpa Kitchen

At the bottom left of the interface, there is a copyright notice: "© 2021 GoodFood Pvt. Ltd."

Figure 117: After selecting customer and dish name

## 7.10 Order Activity webform

**Test case: 20**

<b>Objective</b>	To check whether order history details of top five restaurants along with number of dishes ordered in a month in a decreasing number of dishes will be displayed or not.
<b>Action</b>	Customer name was selected.
<b>Expected Result</b>	Order history details will be displayed in the grid view.
<b>Actual Result</b>	Order history details was successfully displayed in the grid view.
<b>Conclusion</b>	Test was successful.

*Table 45: Test case 20*

- ❖ Before selecting customer name

The screenshot shows a web-based application interface for 'GoodFood'. At the top, there is a navigation bar with tabs: Dish, Customer, Restaurant, Loyalty, Address, and Customer. Below the navigation bar, there are two input fields: 'Customer Name' (containing 'Callum Hudson Odoi') and 'Customer ID' (an empty input field). Below these fields, there is a section titled 'Order History Details:' containing a table. The table has columns: RESTAURANT ID, RESTAURANT NAME, MONTH, and TOTAL ORDER. The data in the table is as follows:

RESTAURANT ID	RESTAURANT NAME	MONTH	TOTAL ORDER
R1006	Sherpa Kitchen	December 2020	5
R1009	Jalapeno Restaurant	December 2020	4
R1010	Eat Street	December 2020	3
R1007	Shantiko Kitchen	December 2020	2
R1005	Bay Leaf Restaurant	November 2020	1

At the bottom left of the page, there is a copyright notice: © 2021 GoodFood Pvt. Ltd.

*Figure 118: Before selecting customer name*

- ❖ While selecting customer name

The screenshot shows a dropdown menu open over a form field labeled "Customer Name". The dropdown contains a list of names, with "Hakim Ziyech" highlighted in blue. The background form includes fields for "Customer ID" (C0007) and "Order History Details" (a table showing restaurant IDs, names, months, and total orders). A copyright notice "© 2021 GoodFood" is visible at the bottom left.

RESTAURANT ID	RESTAURANT NAME	MONTH	TOTAL ORDER
R1006	Sherpa Kitchen	December 2020	5
R1009	Jalapeno Restaurant	December 2020	4
R1010	Eat Street	December 2020	3
R1007	Shantiko Kitchen	December 2020	2
R1005	Bay Leaf Restaurant	November 2020	1

Figure 119: While selecting customer name

- ❖ After selecting customer name

The screenshot shows the same web application after a customer name has been selected. The "Customer Name" field now displays "Hakim Ziyech". The "Customer ID" field contains "C0007". The "Order History Details" table remains the same as in Figure 119.

RESTAURANT ID	RESTAURANT NAME	MONTH	TOTAL ORDER
R1006	Sherpa Kitchen	December 2020	5
R1009	Jalapeno Restaurant	December 2020	4
R1010	Eat Street	December 2020	3
R1007	Shantiko Kitchen	December 2020	2
R1005	Bay Leaf Restaurant	November 2020	1

Figure 120: After selecting customer name

## 8. User Manual

The user manual for each form is given below:

### 8.1 Home webform

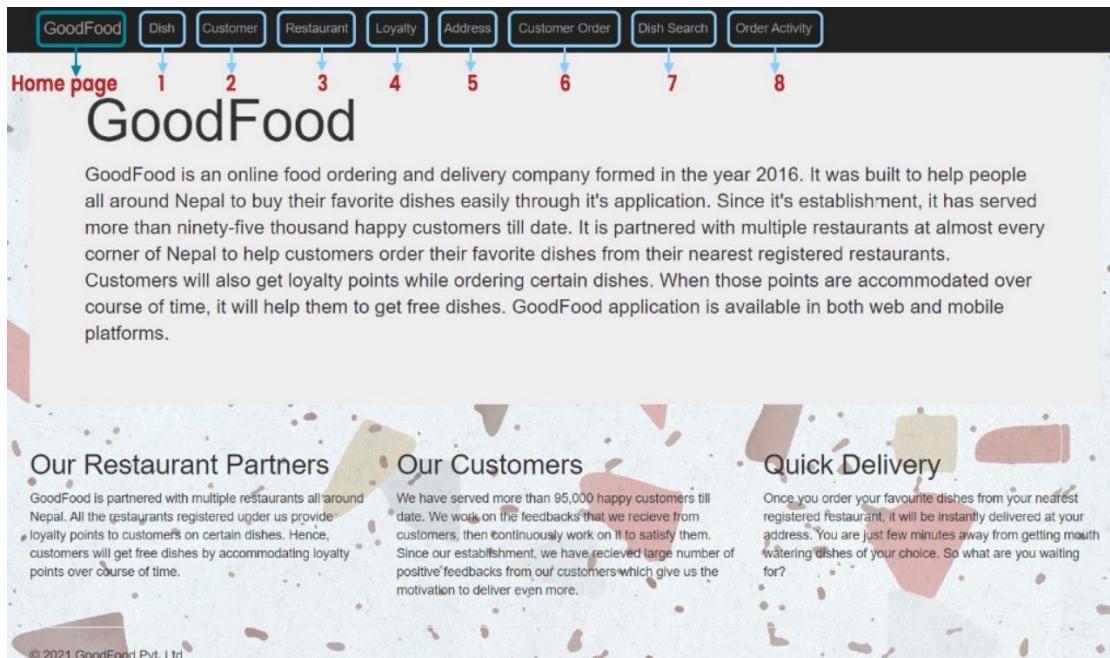


Figure 121: User manual of Home webform

- 1. Dish:** Click on “Dish” nav menu to open Dish Details webform.
- 2. Customer:** Click on “Customer” nav menu to open Customer Details webform.
- 3. Restaurant:** Click on “Restaurant” nav menu to open Restaurant Details webform.
- 4. Loyalty:** Click on “Loyalty” nav menu to open Loyalty Points Details webform.
- 5. Address:** Click on “Address” nav menu to open Delivery Address Details webform.
- 6. Customer Order:** Click on “Customer Order” nav menu to open Customer-Order Details webform.
- 7. Dish Search:** Click on “Dish Search” nav menu to open Dish Search webform.
- 8. Order Activity:** Click on “Order Activity” nav menu to open Order Activity webform.

## 8.2 Dish Details webform

The screenshot shows a user interface for managing dish details. At the top, there are four input fields: 'Dish Code' (text), 'Dish Name' (text), 'Dish Rate' (text), and 'Local Name' (text). Below these is a green 'Save' button. A red callout box to the right of the save button contains instructions: 'To insert new dish: 1. First, fill up all these text boxes. 2. Then, click on Save button.' Another red callout box on the left side of the table says 'To update details of any dish, click on Edit button and update the details.' A third red callout box at the bottom left says 'To delete details of any dish, click on Delete button.' Below the input fields is a table titled 'Dish Details' with columns: DISH CODE, DISH NAME, DISH RATE, and LOCAL NAME. The table contains nine rows of dish information. Each row has 'Edit' and 'Delete' buttons in the first column.

	DISH CODE	DISH NAME	DISH RATE	LOCAL NAME
Edit Delete	CHKMO	Chicken Momo	350	Dumplings
Edit Delete	MIXCHT	Mixed Chatamari	470	Nepali Pizza
Edit Delete	VEGPAS	Vegetable Pasta	150	Veg Pasta
Edit Delete	BUFCH	Buff Chowmin	140	Buff Chowmin
Edit Delete	MIXPIZ	Mixed Pizza	325	Mixed Pizza
Edit Delete	CHKSHA	Chicken Shapale	70	Chicken Shapale
Edit Delete	BEENAN	Beef Nan	75	Beef Nan
Edit Delete	CHKTHA	Chicken Thakali Khana	335	Nepali khana
Edit Delete	MASDOS	Masala Dosa	250	Masala Dosa
Edit Delete	CHKCHI	Chicken Chilli	300	Chicken Chilli

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Figure 122: User manual of Dish Details webform

## 8.3 Restaurant Details webform

The screenshot shows a user interface for managing restaurant details. At the top, there are four input fields: 'Restaurant ID' (text), 'Restaurant Name' (text), 'Address' (text), and 'Contact Number' (text). Below these is a green 'SAVE' button. A red callout box to the right of the save button contains instructions: 'To insert new restaurant: 1. First, fill up all these text boxes. 2. Then, click on Save button.' Another red callout box on the left side of the table says 'To update details of any restaurant, click on Edit button and update the details.' A third red callout box at the bottom left says 'To delete details of any restaurant, click on Delete button.' Below the input fields is a table titled 'Restaurant Details' with columns: RESTAURANT ID, RESTAURANT NAME, RESTAURANT ADDRESS, and CONTACT NUMBER. The table contains ten rows of restaurant information. Each row has 'Edit' and 'Delete' buttons in the first column.

	RESTAURANT ID	RESTAURANT NAME	RESTAURANT ADDRESS	CONTACT NUMBER
Edit Delete	R1001	Feels Good	Lakeside, Pokhara	9800000000
Edit Delete	R1002	Thakali	New Road, Kathmandu	9811111111
Edit Delete	R1003	Dunga Restro	Lakeside, Pokhara	9811200000
Edit Delete	R1004	Anaki Restaurant	Naghdhunga-08, Pokhara	9811113456
Edit Delete	R1005	Bay Leaf Restaurant	Amarsingh, Pokhara	9811144444
Edit Delete	R1006	Sherpa Kitchen	Uttami Chowk, Pokhara	9809876541
Edit Delete	R1007	Shantiko Kitchen	Naya Bazar, Pokhara	9846088888
Edit Delete	R1008	Greasy Spoon Restaurant	Narayanghat, Chitwan	9845908335
Edit Delete	R1009	Jalapeno Restaurant	Kahun, Chitwan	9889335578
Edit Delete	R1010	Eat Street	Gaundakomukh-13, Pokhara	9898078680

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Figure 123: User manual of Restaurant Details webform

## 8.4 Customer Details webform

The screenshot shows a web-based application for managing customer details. At the top, there are four input fields: Customer ID, Customer Name, Age, and Address. Below these is a Contact Number input field. A green 'Save' button is positioned to the right of the address field. A red callout box on the left provides instructions for updating existing customers: "To update details of any customer, click on Edit button and update the details." Another red callout box on the right provides instructions for inserting new customers: "To insert new customer: 1. First, fill up all these text boxes. 2. Then, click on Save button." Below the input fields is a table titled "Customer Details" with columns: CUSTOMER ID, CUSTOMER NAME, AGE, ADDRESS, and CONTACT NUMBER. The table contains 24 rows of data, each with an "Edit" and "Delete" link. The data in the table is as follows:

	CUSTOMER ID	CUSTOMER NAME	AGE	ADDRESS	CONTACT NUMBER
Edit Delete	C0001	Callum Hudson Odoi	19	Sital Devi-12, Pokhara	9801191111
Edit Delete	C0002	Eden Hazard	29	Bhajapatan-13, Pokhara	9801111111
Edit Delete	C0003	Mason Mount	21	Ramipauwa-11, Pokhara	4499089809
Edit Delete	C0004	David Beckham	45	Bijaypur-10, Pokhara	9807765410
Edit Delete	C0005	Paulo Dybala	30	Laliguras, Pokhara	9815167809
Edit Delete	C0006	Timo Werner	24	Amarsingh, Pokhara	9819109870
Edit Delete	C0007	Hakim Ziyech	28	Hospital Chowk, Pokhara	9800987610
Edit Delete	C0008	Neymar Jr	27	Lakeside, Pokhara	9890876100
Edit Delete	C0009	Tammy Abraham	22	Mahendra Pool, Pokhara	9890198001
Edit Delete	C0010	Cristiano Ronaldo	33	Chapapani-12, Pokhara	9801176856
Edit Delete	C0011	Romeo Lukaku	28	Prithvi Chowk, Pokhara	9800000059
Edit Delete	C0012	Karim Benzema	30	Milan Tole, Pokhara	9111126855
Edit Delete	C0013	Zlatan Ibrahimovich	35	Sangam Tole, Pokhara	9819176816
Edit Delete	C0014	Billy Gilmour	19	Srijana Chowk, Pokhara	9801188760
Edit Delete	C0015	Marcos Alonso	28	Chisapani-13, Pokhara	9809876781
Edit Delete	C0016	Reece James	20	Miyapatan-13, Pokhara	9801667800
Edit Delete	C0017	Thiago Silva	33	Purandhara, Pokhara	9801211345
Edit Delete	C0018	Kushal Gurung	20	Gaundakomukh-13, Pokhara	9801111111
Edit Delete	C0019	Kai Havertz	21	Dhunesau, Pokhara	9800145567
Edit Delete	C0020	Toni Rudiger	27	Shanti Tole, Pokhara	9846098710
Edit Delete	C0021	Iago Mourinho	51	Chorapche, Butwal	9806618256

Figure 124: User manual of Customer Details webform

## 8.5 Loyalty Points Details webform

The screenshot shows a web-based application for managing loyalty points. At the top, there are five input fields: Loyalty ID, Description, Loyalty Points, Dish Code, and Restaurant ID. A green 'Save' button is located at the bottom of these fields. A red callout box on the left provides instructions for updating existing loyalties: "To update details of any loyalty, click on Edit button and update the details." Another red callout box on the right provides instructions for inserting new loyalties: "To insert new loyalty: 1. First, fill up all these text boxes. 2. Then, click on Save button." Below the input fields is a table titled "Loyalty Details" with columns: LOYALTY ID, DESCRIPTION, LOYALTY POINTS, DISH CODE, and RESTAURANT ID. The table contains 10 rows of data, each with an "Edit" and "Delete" link. The data in the table is as follows:

	LOYALTY ID	DESCRIPTION	LOYALTY POINTS	DISH CODE	RESTAURANT ID
Edit Delete	2021L001	This loyalty is for Mixed Chatamari dish of Dunga Restro restaurant. It has 5 loyalty points.	5		
Edit Delete	2021L002	This loyalty is for Chicken Momo dish of Feels Good restaurant. It has 5 loyalty points.	5		
Edit Delete	2021L003	This loyalty is for Vegetable Pasta dish of Thakali restaurant. It has 3 loyalty points.	3		
Edit Delete	2021L004	This loyalty is for Buff Chownmin dish of Anaki restaurant. It has 5 loyalty points.	5		
Edit Delete	2021L005	This loyalty is for Mixed Pizza dish of Bay Leaf restaurant. It has 10 loyalty points.	10		
Edit Delete	2021L006	This loyalty is for Chicken Shapale dish of Sherpa Kitchen restaurant. It has 2 loyalty points.	2		
Edit Delete	2021L007	This loyalty is for Beef Nan dish of Shantiko Kitchen restaurant. It has 1 loyalty point.	1		
Edit Delete	2021L008	This loyalty is for Chicken Thakali Khana dish of Greasy Spoon restaurant. It has 10 loyalty points.	10		
Edit Delete	2021L009	This loyalty is for Masala Dosa dish of Jalapeno restaurant. It has 7 loyalty points.	7		
Edit Delete	2021L010	This loyalty is for Chicken Chilli dish of Eat Street restaurant. It has 4 loyalty points.	4		

Figure 125: User manual of Loyalty Points Details webform

## 8.6 Delivery Address Details webform

The screenshot shows a user interface for managing delivery addresses. At the top, there is a form with four text input fields: 'Delivery ID' (empty), 'Delivery Point' (empty), 'Delivery Time' (empty), and 'Delivery Cost' (empty). Below this is a green 'Save' button. To the left of the form, a red box contains the text: 'To update details of any delivery address, click on Edit button and update the details.' To the right of the form, another red box contains the text: 'To insert new delivery address: 1. First, fill up all these text boxes. 2. Then, click on Save button.' Below the form is a table titled 'Delivery Address Details' with columns: DELIVERY ID, DELIVERY POINT, DELIVERY TIME, and DELIVERY COST. The table contains 10 rows of data.

DELIVERY ID	DELIVERY POINT	DELIVERY TIME	DELIVERY COST
Edit Delete D001	Gaundakomukh-13, Pokhara	30 minutes	1500
Edit Delete D002	Matepani-12, Pokhara	40 minutes	1600
Edit Delete D003	Mahendra Pool, Pokhara	20 minutes	1000
Edit Delete D004	Lakeside, Pokhara	40 minutes	2000
Edit Delete D005	Hospital Chowk, Pokhara	10 minutes	500
Edit Delete D006	Amarsingh, Pokhara	15 minutes	1200
Edit Delete D007	Kahan, Chitwan	25 minutes	1000
Edit Delete D008	Narayanghat, Chitwan	30 minutes	1300
Edit Delete D009	Naghdhunga-08, Pokhara	30 minutes	1600
Edit Delete D010	Sundhara, Kathmandu	10 minutes	500

Figure 126: User manual of Delivery Address Details webform

## 8.7 Customer-Order Details webform

The screenshot shows a user interface for managing customer orders. At the top, there is a dropdown menu for 'Customer Name' with options like Callum Hudson Odoi, Eden Hazard, Mason Mount, and David Beckham. Next to it is a text input field for 'Customer ID'. Below this is a table with columns: ORDER NUMBER, ORDER DATE, ORDER AMOUNT, CUSTOMER ID, DELIVERY ID, DISH CODE, RESTAURANT ID, and STATUS. The table contains many rows of data. To the left of the table, a red box contains the text: '1. To get delivery point, first select a customer name.' To the right of the table, another red box contains the text: '2. Selected customer's ID will be displayed in this text box.' Below the table, there is a second table with the same columns. The first row of this table has 'Customer Name' set to 'David Beckham' and 'Customer ID' set to 'C0004'. A green 'Get Delivery Point' button is located below this table. A red box next to it contains the text: '3. Order details of selected customer will be displayed in this grid view.' At the bottom, there are two text input fields: 'Delivery ID' (containing 'D003') and 'Delivery Point' (containing 'Mahendra Pool, Pokhara').

ORDER NUMBER	ORDER DATE	ORDER AMOUNT	CUSTOMER ID	DELIVERY ID	DISH CODE	RESTAURANT ID	STATUS
09-00232	1/12/2020 12:00:00 AM	1700	C0001	D002	CHKMO	R1001	On Time
09-00233	1/12/2020 12:00:00 AM	750	C0002	D001	MIXCHT	R1002	Early
09-00234	1/13/2020 12:00:00 AM	500	C0003	D004	BEENAN	R1003	Late
09-00235	1/15/2020 12:00:00 AM	900	C0004	D003	BUFCH	R1004	On Time
09-00236	1/16/2020 12:00:00 AM	700	C0005	D006	CHKCHI	R1005	On Time
09-00237	1/16/2020 12:00:00 AM	610	C0006	D005	CHKSHA	R1006	On Time
09-00238	1/16/2020 12:00:00 AM	1010	C0007	D008	CHKTHA	R1007	Late
09-00239	2/10/2020 12:00:00 AM	490	C0008	D007	MASDOS	R1008	On Time
09-00240	2/11/2020 12:00:00 AM	740	C0009	D010	MIXPIZ	R1009	On Time
09-00241	2/24/2020 12:00:00 AM	940	C0010	D009	VEGPAS	R1010	On Time
09-00242	2/24/2020 12:00:00 AM	700	C0011	D002	CHKMO	R1010	On Time
09-00243	2/24/2020 12:00:00 AM	900	C0012	D003	BUFCH	R1010	On Time
09-00244	2/24/2020 12:00:00 AM	900	C0013	D006	VEGPAS	R1009	On Time
09-00245	2/26/2020 12:00:00 AM	1200	C0014	D006	CHKMO	R1009	On Time
09-00246	2/26/2020 12:00:00 AM	300	C0015	D007	CHKMO	R1007	On Time
09-00247	2020-11-223327	550	C0016	D002	MIXCHT	R1007	On Time
09-00248	2020-11-223328	725	C0017	D005	CHKTHA	R1001	On Time
09-00249	2020-11-223329	325	C0018	D006	CHKSHA	R1006	Late

ORDER NUMBER	SN	ORDER DATE	ORDER AMOUNT	CUSTOMER ID	DELIVERY ID	DISH CODE	RESTAURANT ID	STATUS
09-00235	2020-11-223315	11/15/2020 12:00:00 AM	900	C0004	D003	BUFCH	R1004	On Time

Figure 127: User manual of Customer-Order Details webform

## 8.8 Dish Search webform

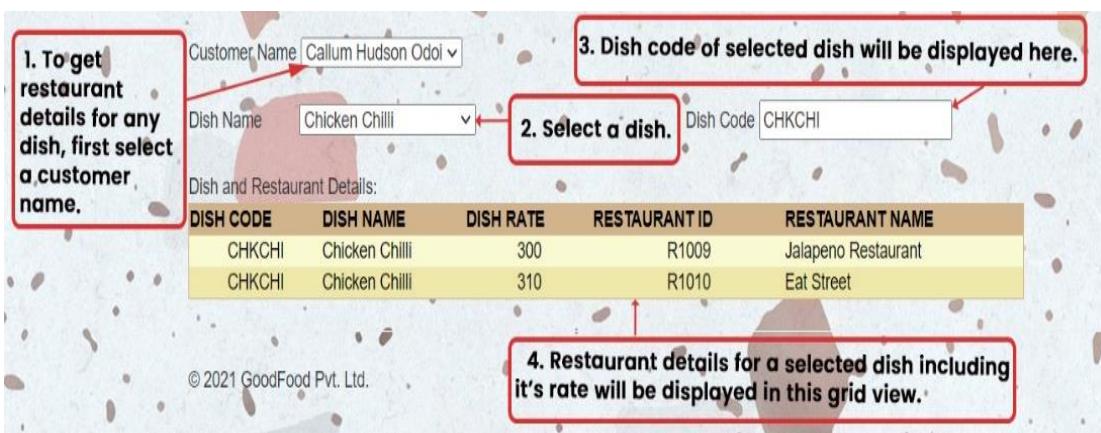


Figure 128: User manual of Dish Search webform

## 8.9 Order Activity webform



Figure 129: User manual of Order Activity webform

## 9. Further Discussion

The system built in this coursework is a web based application built in Visual Studio IDE. The system is developed for an online food ordering and delivery company named “GoodFood”. In this system, user can interact with 8 different webforms excluding the Home webform. Out of 8 webforms, 5 of them are basic webforms whereas the remaining three are complex webforms. Basic webforms include: Dish, Customer, Restaurant, Loyalty and Address, whereas complex webforms include: Customer Order, Dish Search and Order Activity.

All the five basic webforms have the features to add new data, update and delete the existing data, whereas the complex webform are mainly used for getting a particular detail or data. Out of three complex webforms, Customer Order webform is used for getting the delivery point of a particular customer, Dish Search webform is used for getting the list of restaurants that serves a particular dish, whereas Order Activity webform shows the details of top five restaurants along with number of dishes ordered in a month in a decreasing number of dishes.

Talking about the tools and techniques, I have learnt many important and fruitful things. First thing I learnt is how to use Visual Studio IDE and its features like toggle breakpoint, design, split, source options, adding events to buttons, drop down lists, and also writing select, update and delete query for grid views. Similarly, I have enhanced my Oracle SQLPlus and C# programming language skills by developing ASP.NET web application in C# and connecting it with database. Lastly, I used two other important tools for this coursework: Oracle SQL Developer for creating tables and inserting data into them, and Oracle SQL Developer Data Modeler for producing final Entity Relationship Diagram.

The first coursework of Advanced Database Systems Development module is now complete. It was a great experience for me while working on this coursework because I was up against multiple new errors that I had never faced before. Therefore, it took valuable suggestions from module leader, discussions with friends, reviews of lecture and workshop slides, hard work and a lot of researches in the internet to overcome those errors and complete this coursework.

## 10. Bibliography

- Brumm, B., 2015. *databasestar*. [Online]  
Available at: [https://www.databasestar.com/oracle-to\\_char/](https://www.databasestar.com/oracle-to_char/)  
[Accessed 27 February 2021].
- Chapple, M., 2020. *lifewire*. [Online]  
Available at: <https://www.lifewire.com/database-normalization-basics-1019735>  
[Accessed 01 February 2021].
- Duran, M., 2019. *ittutorial*. [Online]  
Available at: <https://ittutorial.org/data-dictionary/>  
[Accessed 10 February 2021].
- geeksforgeeks, 2019. *geeksforgeeks*. [Online]  
Available at: <https://www.geeksforgeeks.org/third-normal-form-3nf/>  
[Accessed 02 February 2021].
- javatpoint, n.d. *javatpoint*. [Online]  
Available at: <https://www.javatpoint.com/oracle-insert-all>  
[Accessed 13 February 2021].
- microsoft, n.d. *microsoft*. [Online]  
Available at: <https://docs.microsoft.com/en-us/dotnet/api/system.data.oledb.oledbcommand?view=dotnet-plat-ext-5.0>  
[Accessed 23 February 2021].
- oracle, 2003. *oracle*. [Online]  
Available at:  
[https://docs.oracle.com/cd/B12037\\_01/server.101/b10759/pseudocolumns008.htm](https://docs.oracle.com/cd/B12037_01/server.101/b10759/pseudocolumns008.htm)  
[Accessed 27 February 2021].
- oracleadmin, 2013. *oracle.bleepingtech*. [Online]  
Available at: <http://oracle.bleepingtech.com/create-a-table-in-sql-plus/>  
[Accessed 12 February 2021].
- oracletutorial, n.d. *oracletutorial*. [Online]  
Available at: <https://www.oracletutorial.com/oracle-basics/oracle-group-by/>  
[Accessed 26 February 2021].
- Vinish, 2021. *orclqa*. [Online]  
Available at: <https://orclqa.com/oracle-sql-join-two-tables/>  
[Accessed 25 February 2021].