



**COLLEGE OF COMPUTING, INFORMATICS AND MATHEMATICS,
UNIVERSITI TEKNOLOGI MARA,
MERBOK, KEDAH**

DIPLOMA IN LIBRARY INFORMATICS (CDIM144)

PROGRAMMING FOR LIBRARIES (IML207)

“COURIER SYSTEM: PARCEL BILL”

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SUBMISSION DATE:

WEEK 12

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TABLE OF CONTENT

1.0 INTRODUCTION..... 1

 1.1 PROBLEM STATEMENT 1

 1.2 OBJECTIVE 1

2.0 FLOW CHART 2

3.0 SNAPSHOT OF CODE 3-4

4.0 SNAPSHOT OF GUI 5

5.0 SNAPSHOT OF DATABASE 6



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Programme Code :-
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For that matter, I am able to try to put my best effort throughout the completion of this assignment. Once again, I would like to thank everyone for the time, energy and commitment.

1.0 INTRODUCTION OF COURIER SYSTEM

The Courier Parcel Bill System is a software solution designed to streamline and automate the process of calculating charges for courier services. In order for courier businesses to run their businesses successfully and keep their users satisfied in the fast-paced world of today, accurate and efficient billing systems are essential.

1.1 PROBLEM STATEMENT

Manual and prone to error parcel bill calculation methods are a major source of operational inefficiencies, billing disparities, and disgruntled customers in the current courier industry. When a courier parcel bill calculation system isn't automated, the following happens:

- **Inaccuracies and Disputes:** Determining shipping costs by hand raises the possibility of errors, which in turn causes billing disputes and erodes customer confidence and satisfaction.
- **Lack of Adaptability:** Without a centralized system, courier companies struggle to adapt to dynamic market conditions, and evolving customer demands, limiting their ability to stay competitive in the industry.

1.2 OBJECTIVE

- **Automation:** Streamline and automate the complex process of calculating courier parcel bills to reduce manual errors and enhance operational efficiency.
- **Adaptability:** Provide a flexible and customizable system that adapts to various pricing structures, and shipping options, meeting the diverse needs of courier companies.

2.0 FLOW CHART

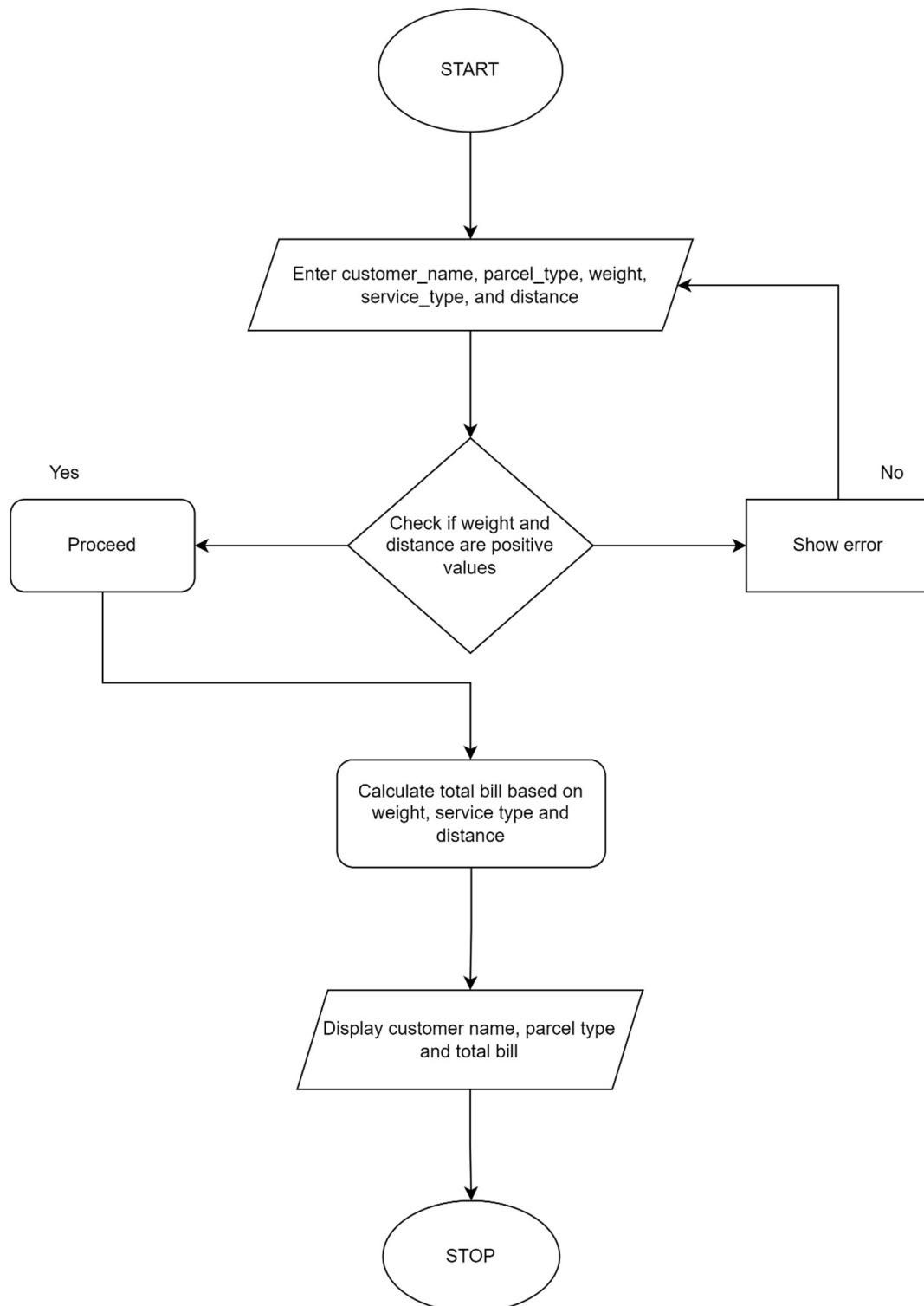


Figure 1 Parcel bill Flowchart

3.0 SNAPSHOT OF CODE

```
1 import tkinter
2 from tkinter import ttk
3 from tkinter import messagebox
4 import mysql.connector
5
6 def parcel_bill():
7     customer_name = customer_name_var.get()
8     parcel_type = parcel_type_var.get()
9     weight = float(weight_entry.get())
10    service_type = service_type_var.get()
11    distance = float(distance_entry.get())
12
13    weight_per_kg = {
14        "envelope": 0.1,
15        "small box": 0.5,
16        "medium box": 1,
17        "large box": 2
18    }
19    price_per_kg = {
20        "envelope": 5,
21        "small box": 8,
22        "medium box": 12,
23        "large box": 15
24    }
25    service_cost = {
26        "express": 10,
27        "standard": 4.50
28    }
29
30    weight_cost = price_per_kg[parcel_type] * weight
31    service_cost = service_cost[service_type]
32    distance_cost = distance * weight_per_kg[parcel_type]
33    total_bill = weight_cost + service_cost + distance_cost
34
35    print("Customer Name: {customer_name}")
36    print("Parcel Type: {parcel_type}")
37
38    total_bill_var.set(f"Total Bill: RM {total_bill:.2f}")
39    total_bill_label.config(textvariable=total_bill_var)
40
41    # Connect to MySQL database
42    mydb = mysql.connector.connect(
43        host="localhost",
44        user="root",
45        password="",
46        database="parcel_bill"
47    )
48    cursor = mydb.cursor()
49
50    # Insert data into the MySQL table
51    try:
52        sql = "INSERT INTO 'courier_info' (customer_name, parcel_type, weight, service_type, distance, total_bill) VALUES (%s, %s, %s, %s, %s, %s)"
53        val = (customer_name, parcel_type, weight, service_type, distance, total_bill)
54        cursor.execute(sql, val)
55        mydb.commit()
56        print("Data Inserted successfully")
57    except mysql.connector.Error as err:
58        print("Error: (err)")
59        mydb.rollback()
60
61    cursor.close()
62    mydb.close()
63
64    if weight <= 0 or distance <= 0:
65        messagebox.showerror("Error", "Please enter positive values for weight and distance.")
66
67
68 # Create the main Tkinter window
69 root = tkinter.Tk()
70 root.title("Parcel Bill")
71 root.geometry("300x400")
72 root.config(bg="#B9D8E4")
73
74 style = ttk.Style()
75 style.theme_use("default")
76 style.configure("Pink.TLabelFrame", background="#f6cab7")
77 style.configure("Pink.TLabel", background="#f6cab7")
78
79 parcel_bill_frame = ttk.LabelFrame(root, text="Parcel Bill", style="Pink.TLabelFrame")
80 title_label = ttk.Label(parcel_bill_frame, text="Parcel Bill")
81 parcel_bill_frame.grid(row=0, column=0, padx=20, pady=10, sticky="nsew") # Added sticky to expand frame
82 title_label.grid(row=0, column=0, sticky="nsew") # Position the label within the frame
83
84 # Spacing and centering elements within the frame
85 for widget in parcel_bill_frame.winfo_children():
86     if isinstance(widget, (ttk.Label, ttk.Entry)): # Check if widget is Label or Entry
87         widget.grid_configure(padx=20, pady=5, sticky="nsew")
88
89 customer_name_label = ttk.Label(parcel_bill_frame, text="Customer Name:", style="Pink.TLabel")
90 customer_name_label.grid(row=0, column=0, padx=5, pady=5)
91 customer_name_var = tkinter.StringVar()
92 customer_name_entry = ttk.Entry(parcel_bill_frame)
93 customer_name_entry.grid(row=0, column=1, padx=5, pady=5)
94
95 parcel_type_label = ttk.Label(parcel_bill_frame, text="Parcel Type:", style="Pink.TLabel")
96 parcel_type_label.grid(row=1, column=0, padx=5, pady=5)
97 parcel_type_var = tkinter.StringVar(value="choose your parcel type")
98 parcel_types = ["envelope", "small box", "medium box", "large box"]
99 parcel_type_combobox = ttk.Combobox(parcel_bill_frame, textvariable=parcel_type_var, values=parcel_types)
100 parcel_type_combobox.grid(row=1, column=1, padx=5, pady=5)
```



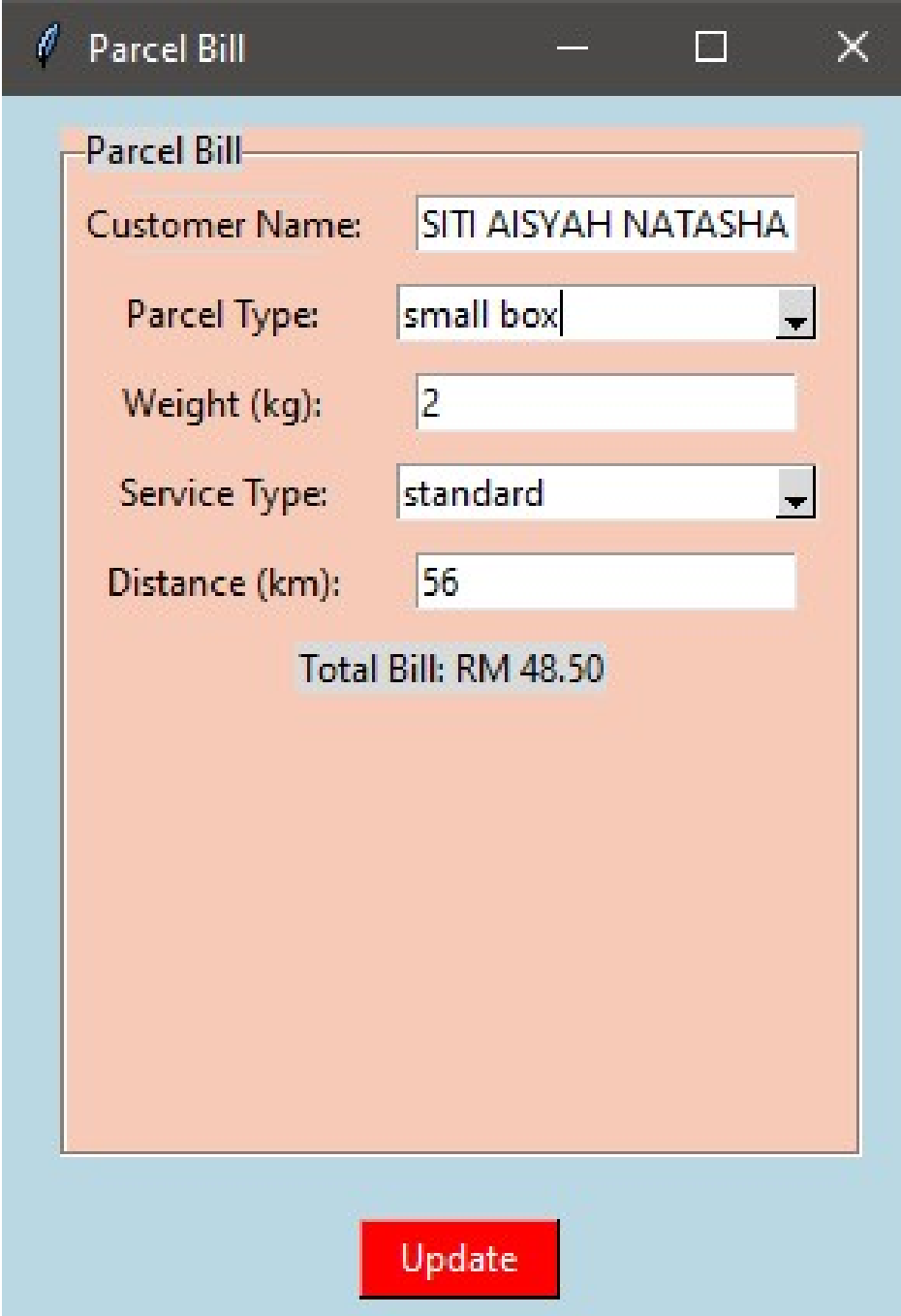
```

101 weight_label = ttk.Label(parcel_bill_frame, text="Height (kg):", style="Pink.TLabel")
102 weight_label.grid(row=2, column=0, padx=5, pady=5)
103 weight_entry = ttk.Entry(parcel_bill_frame)
104 weight_entry.grid(row=2, column=1, padx=5, pady=5)
105
106
107 service_type_label = ttk.Label(parcel_bill_frame, text="Service Type:", style="Pink.TLabel")
108 service_type_label.grid(row=3, column=0, padx=5, pady=5)
109 service_type_var = tkinter.StringVar(value="standard")
110 service_types = ["express", "standard"]
111 service_type_combobox = ttk.Combobox(parcel_bill_frame, textvariable=service_type_var, values=service_types)
112 service_type_combobox.grid(row=3, column=1, padx=5, pady=5)
113
114 distance_label = ttk.Label(parcel_bill_frame, text="Distance (km):", style="Pink.TLabel")
115 distance_label.grid(row=4, column=0, padx=5, pady=5)
116 distance_entry = ttk.Entry(parcel_bill_frame)
117 distance_entry.grid(row=4, column=1, padx=5, pady=5)
118
119 total_bill_var = tkinter.StringVar()
120 total_bill_label = ttk.Label(parcel_bill_frame, textvariable=total_bill_var)
121 total_bill_label.grid(row=5, column=0, colspan=2, padx=5, pady=5)
122
123 # Create update button
124 style.configure("Red.TButton", foreground="white", background="red")
125 update_button = ttk.Button(root, text="Update", command=parcel_bill, style="Red.TButton")
126 update_button.grid(row=1, column=0, pady=10)
127
128 # Centering elements within the root window
129 root.columnconfigure(0, weight=1) # Allow the column to expand
130 root.rowconfigure(0, weight=1) # Allow the row to expand
131
132 root.mainloop()
133

```

Figure 2 snapshot of code

4.0 SNAPSHOT OF GUI



A screenshot of a web application window titled "Parcel Bill". The window has a dark grey header bar with a feather icon on the left and standard window controls (minimize, maximize, close) on the right. The main content area has a light blue background. Inside, there is a white-bordered box with an orange header "Parcel Bill". Below the header, there are five input fields: "Customer Name" with the text "SITI AISYAH NATASHA", "Parcel Type" with a dropdown menu showing "small box", "Weight (kg)" with the text "2", "Service Type" with a dropdown menu showing "standard", and "Distance (km)" with the text "56". Below these fields, the text "Total Bill: RM 48.50" is displayed. At the bottom of the white box, there is a red button with the text "Update".

Parcel Bill

Customer Name: SITI AISYAH NATASHA

Parcel Type: small box

Weight (kg): 2

Service Type: standard

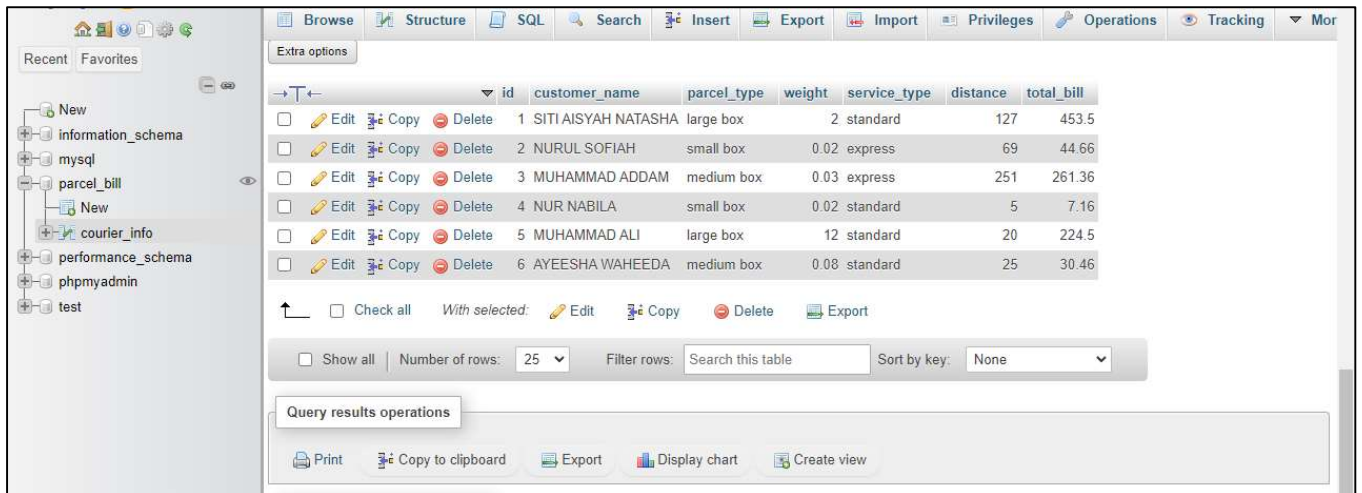
Distance (km): 56

Total Bill: RM 48.50

Update

Figure 3 snapshot of GUI

5.0 SNAPSHOT OF DATABASE



Recent Favorites

Extra options

| | id | customer_name | parcel_type | weight | service_type | distance | total_bill |
|---|----|---------------------|-------------|--------|--------------|----------|------------|
| <input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete | 1 | SITI AISYAH NATASHA | large box | 2 | standard | 127 | 453.5 |
| <input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete | 2 | NURUL SOFIAH | small box | 0.02 | express | 69 | 44.66 |
| <input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete | 3 | MUHAMMAD ADDAM | medium box | 0.03 | express | 251 | 261.36 |
| <input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete | 4 | NUR NABILA | small box | 0.02 | standard | 5 | 7.16 |
| <input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete | 5 | MUHAMMAD ALI | large box | 12 | standard | 20 | 224.5 |
| <input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete | 6 | AYEESHA WAHEEDA | medium box | 0.08 | standard | 25 | 30.46 |

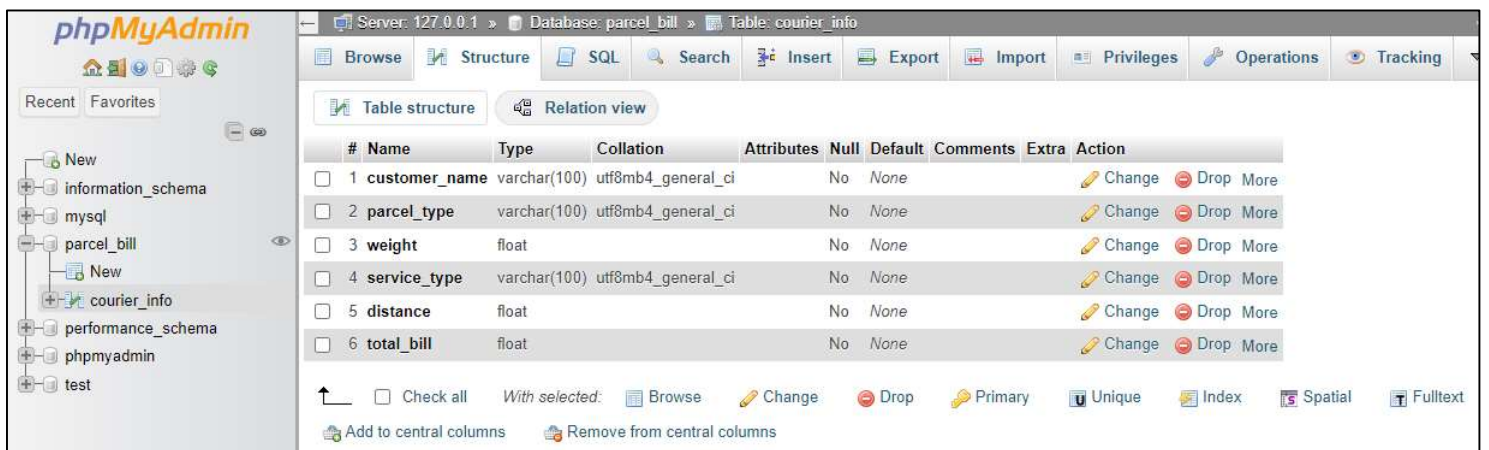
☐ Check all With selected: ☐ Edit ☐ Copy ☐ Delete ☐ Export

☐ Show all Number of rows: 25 Filter rows: Search this table Sort by key: None

Query results operations

☐ Print ☐ Copy to clipboard ☐ Export ☐ Display chart ☐ Create view

Figure 4.0 snapshot of database



phpMyAdmin

Recent Favorites

Server: 127.0.0.1 » Database: parcel_bill » Table: courier_info

Table structure Relation view

| # | Name | Type | Collation | Attributes | Null | Default | Comments | Extra | Action |
|----------------------------|---------------|--------------|--------------------|------------|------|---------|----------|-------|---|
| <input type="checkbox"/> 1 | customer_name | varchar(100) | utf8mb4_general_ci | | No | None | | | <input type="checkbox"/> Change <input type="checkbox"/> Drop <input type="checkbox"/> More |
| <input type="checkbox"/> 2 | parcel_type | varchar(100) | utf8mb4_general_ci | | No | None | | | <input type="checkbox"/> Change <input type="checkbox"/> Drop <input type="checkbox"/> More |
| <input type="checkbox"/> 3 | weight | float | | | No | None | | | <input type="checkbox"/> Change <input type="checkbox"/> Drop <input type="checkbox"/> More |
| <input type="checkbox"/> 4 | service_type | varchar(100) | utf8mb4_general_ci | | No | None | | | <input type="checkbox"/> Change <input type="checkbox"/> Drop <input type="checkbox"/> More |
| <input type="checkbox"/> 5 | distance | float | | | No | None | | | <input type="checkbox"/> Change <input type="checkbox"/> Drop <input type="checkbox"/> More |
| <input type="checkbox"/> 6 | total_bill | float | | | No | None | | | <input type="checkbox"/> Change <input type="checkbox"/> Drop <input type="checkbox"/> More |

☐ Check all With selected: ☐ Browse ☐ Change ☐ Drop ☐ Primary ☐ Unique ☐ Index ☐ Spatial ☐ Fulltext

☐ Add to central columns ☐ Remove from central columns

Figure 4.1 snapshot of database