COURIER MANAGEMENT SERVICE

COURSE: BTech CE (Shirpur Campus)
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Abstract

A database management system (DBMS) is a software package with computer programs that control the creation, maintenance, and use of a database. It allows organizations to conveniently develop databases for various applications by database administrators (DBAs) and other specialists.

In this project we will be working on Courier Database Management System. Courier service has to keep itself up-to-date with information on the processing and current location of each shipped item. To do this, the company relies on a company-wide information system. With the help of this project service providers can easily maintain the data and will be able to make their services more efficient.

Description of the Project

In this project, we will be observing the scenario and based on that an ER Diagram will be constructed. Then we convert it into relational schema and implement the design using MySQL Server. Finally, some sample values will be inserted into the database and data will be verified.

Scenario

A **Customer** is given a unique CID(Customer ID) when he places an order. His name, mobile, address, pin code, and date of order are recorded.

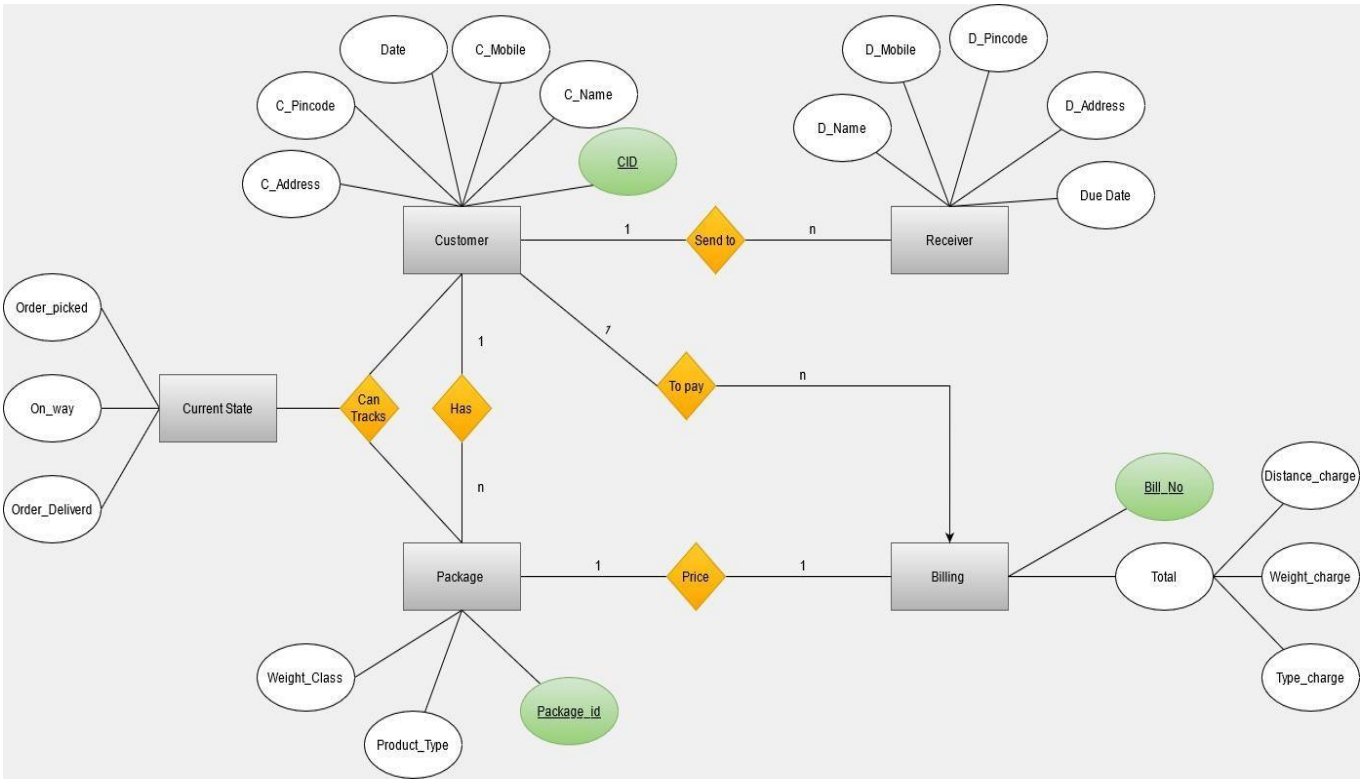
While placing the order, the weight class and product type are noted for safer transportation and also given a unique package id.

Also, the details of the person to whom the product is to be delivered are recorded. His details include his name, mobile, address, pin code and he is given an expected date of delivery.

Bill is generated based on weight charge, package type, and distance fee. A unique bill no. is also generated.

For customer satisfaction and as mentioned earlier, a service of tracking is also provided. Customer can track his product using package_id and CID which will provide him with the current status of the package.

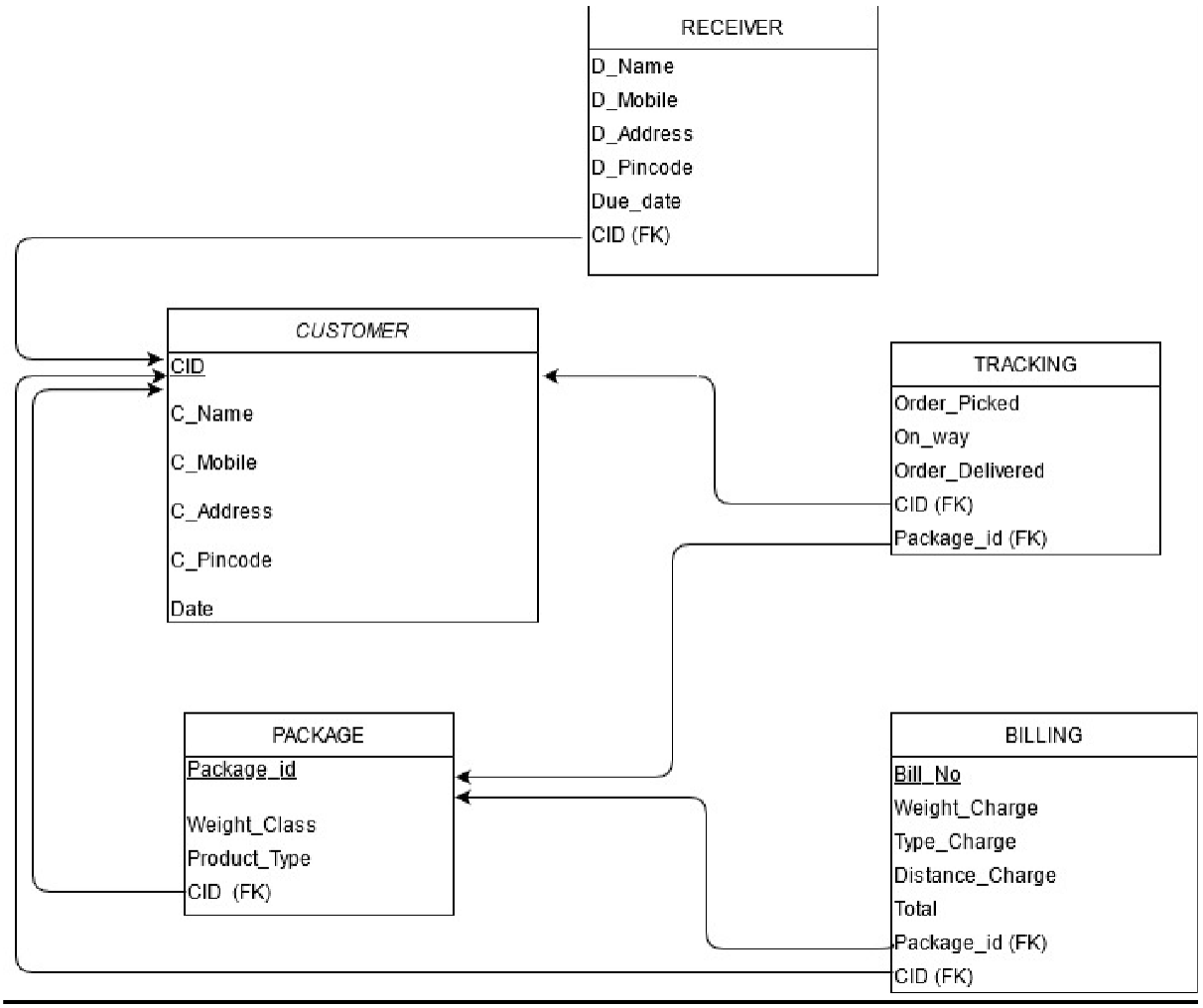
ER Diagram



IO File link :-

https://drive.google.com/file/d/1X6QF3cuu1TasxtahcaIlEZ021Z-Avf2u/view?usp=sharing

Relational Schema



Source Code

```
Create database

project; use project;



drop table

customer; drop

table receiver; drop

table package; drop

table tracking; drop

table billing;



create table customer (CID integer primary key, C_Name varchar(20), C_Mobile
varchar(10), C_Address varchar(50), C_Pincode integer, O_Date date);

Create table Receiver (CID integer ,foreign key (CID) references customer
(CID),D_Name varchar(20), D_Mobile varchar(10), D_Address varchar(50),
D_Pincode integer, Due_Date date);

Create table Package (Package_id varchar(5) primary key, CID integer,foreign key (CID)
references customer (CID), Weight_Class varchar(50), Product_Type varchar(20));

Create table Tracking (Package_id varchar(5),foreign key (Package_id) references
package (Package_id), CID integer,foreign key (CID) references customer (CID),
Order_Picked timestamp, On_Way timestamp, Order_Delivered timestamp default
null);

Create table Billing (Bill_no varchar(6), Package_id varchar(5),foreign key
(Package_id) references package (Package_id), CID integer,foreign key (CID)
references customer (CID), Weight_charge integer, Type_charge integer,
Distance_charge integer, Total integer);



Insert into customer values (1101, "Charlie", "9012341234", "Lajpat Nagar,Jaipur",
302001, "2021-03-02");

Insert into customer values (1201, "Fitz", "9012341212", "STPS Colony, Raipur",
490042, "2021-02-21");

Insert into customer values (2205, "Ainsley", "9012341263", "Angel
Apartment,Mumbai", 400001, "2021-03-23");
```

```
Insert into Receiver values (1101, "David", "9012344321", "Thermal Colony, Kota",
324005, "2021-03-09");

Insert into Receiver values (1201, "John", "9012314214", "Sindhi Colony, Mumbai",
400003, "2021-02-28");

Insert into Receiver values (2205, "Rahul", "9012325232", "Link Road, Pune",
410038, "2021-03-28");


Insert into Package values ("A1101", 1101, "Below 200gm",

"Document"); Insert into Package values ("A1201", 1201, "2-5 kg",

"Hadle with care"); Insert into Package values ("A2205", 2205, "500 -

1000gm", "Others");


Insert into Tracking values ("A1101", 1101, "2021-03-03 11:23:23", "2021-03-05
16:32:23", "2021-03-07 12:12:06");

Insert into Tracking values ("A1201", 1201, "2021-02-22 10:36:23", "2021-02-24
19:06:23", "2021-02-27 14:56:06");

Insert into Tracking values ("A2205", 2205, "2021-03-24 15:53:53", "2021-03-25
19:21:23",null);


Insert into Billing values ("AA1101", "A1101", 1101, 100, 50, 100, 250);

Insert into Billing values ("AA1201", "A1201", 1201, 2000, 1000, 500, 3500);

Insert into Billing values ("BA2205", "A2205", 2205, 800, 200, 300, 1300);
```

Tables with Sample values:

Primary Keys:-
Foreign Keys:-

Customer

CID	C_Name	C_Mobile	C_Address	C_Pincode	Date
1101	Charlie	9012341234	Lajpat Nagar, Jaipur	302001	02/03/2021
1201	Fitz	9012341212	STPS Colony, Raipur	490042	21/02/2021
2205	Ainsley	9012341263	Angel's Apartment, Mumbai	400001	23/03/2021

Receiver

CID	D_Name	D_Mobile	D_Address	D_Pincode	Due_date
1101	David	9012344331	Thermal Colony, Kota	324005	09/03/2021
1201	John	9012314214	Sindhi Colony, Mumbai	400003	28/02/2021
2205	Rahul	9012325232	Link Road ,Pune	410038	28/03/2021

Billing Details

Bill_No	CID	Package_id	Weight_Charge	Type_Charge	Distance_ Charge	Total
AA1101	1101	A1101	100	50	100	250
AA1201	1201	A1201	2000	1000	500	3500
BA2205	2205	B2205	800	200	300	1300

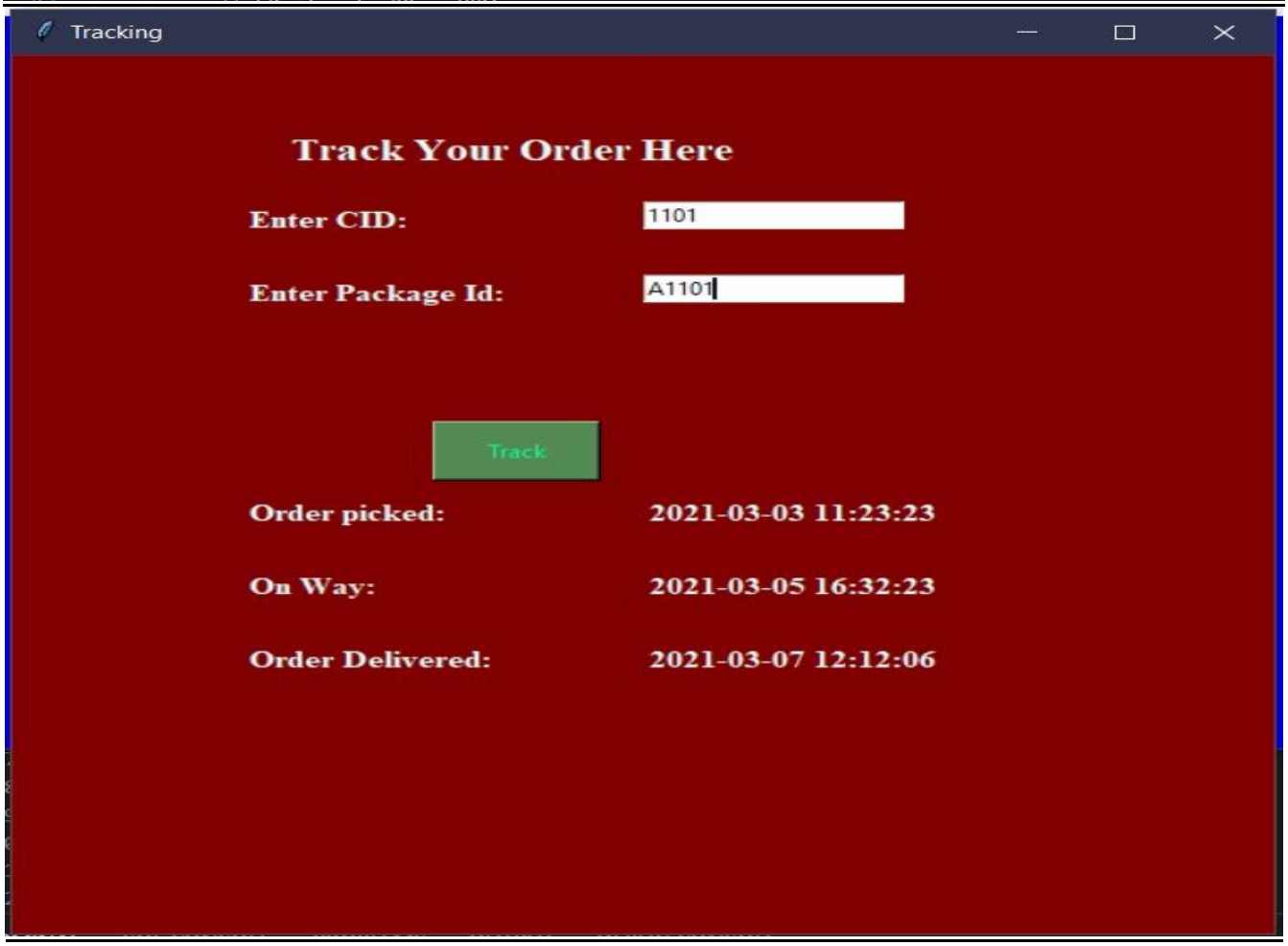
Package Details

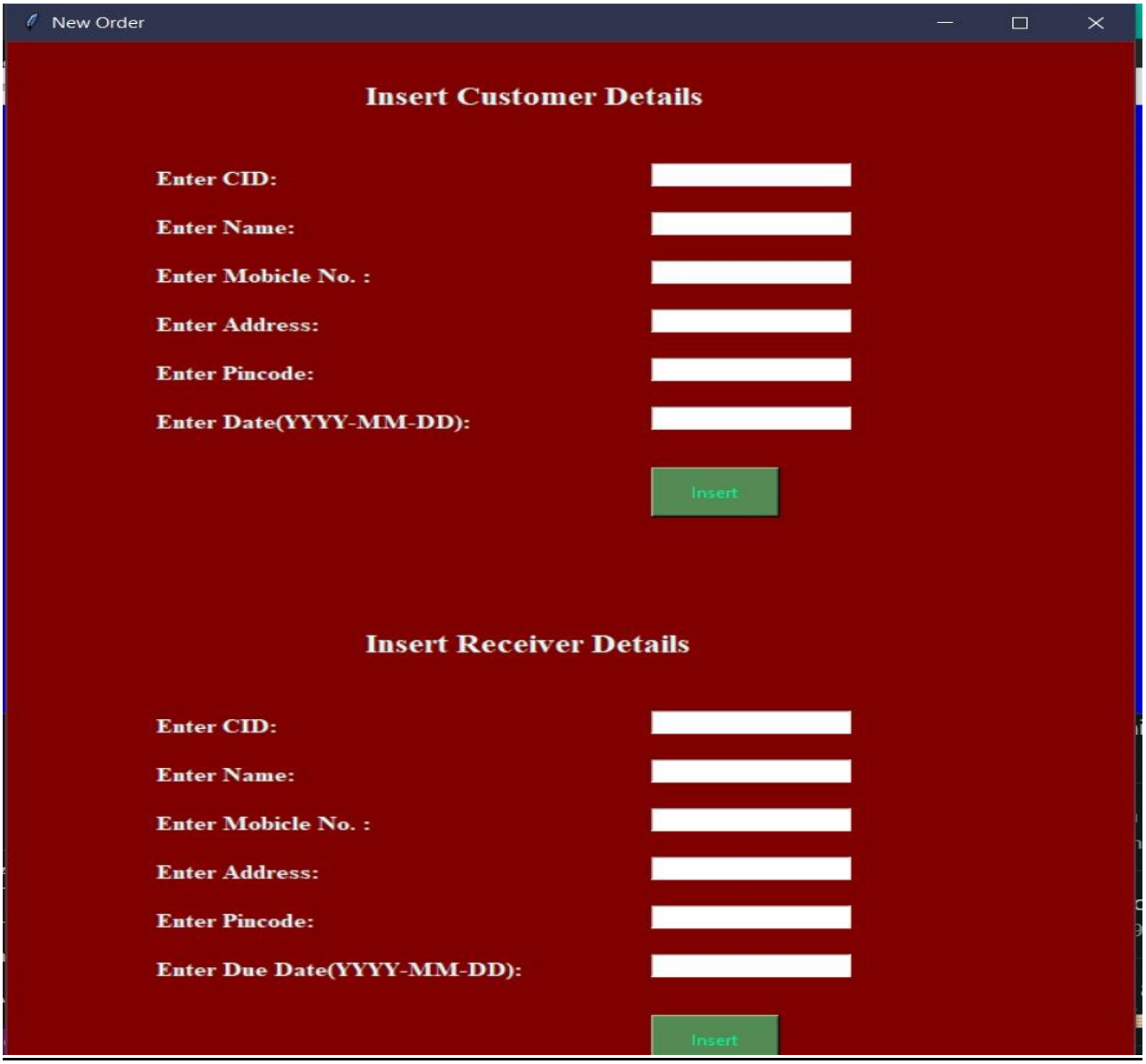
Package_id	CID	Weight_Class	Product_Type
A1101	1101	Below 200 gm	Document
A1201	1201	2 -5 kg	HWC
A2205	2205	500-1000 gm	Others

Tracking Details

Package_id	CID	Order_picked	On_way	Order_Delivered
A1101	1101	03/03/2021 11:23:23	05/03/21 16:32:23	07/03/2021 12:12:06
A1201	1201	22/02/2021 10:36:23	24/02/21 19:06:23	27/02/2021 14:56:06
A2205	2205	24/03/2021 15:53:53	25/03/21 19:21:23	-

PYTHON PROJECT





SOURCE CODE:

```
import mysql.connector
import tkinter
from tkinter import *
import tkinter as tk
from datetime import datetime

mydb = mysql.connector.Connect(host= "localhost", user="root",password="reaper767")
cursor= mydb.cursor()
cursor.execute("use project")
window = Tk()
window.title("Courier Service")

class DATA:
def __init__(self,window,mydb,cursor):
self.f=Frame(window,height=500,width=800,bg="Blue")
self.f.pack()
self.l1 = Label(self.f,text="Welcome to Courier Service",font=("Times New Roman",20,"bold"))
self.l1.pack()
self.b1 = Button(self.f,text="Track Your Order",font=("Times New
Roman",12,"bold"),width=14,height=2,bg="cyan",fg='navy',command=
lambda:self.Track_Your_Order(window))
```

```
self.b1.pack()
self.b2 = Button(self.f,text="New Order",font=("Times New
Roman",12,"bold"),width=14,height=2,bg="cyan",fg='navy', command =
lambda:self.InsertValue(window))
self.b1.pack()
self.b3 = Button(self.f,text="Order Details",font=("Times New
Roman",12,"bold"),width=14,height=2,bg="cyan",fg='navy')
self.b1.pack()
self.l1.place(x=90,y=50)
self.b1.place(x=90,y=200)
self.b2.place(x=90,y=300)
self.b3.place(x=90,y=400)


def InsertValue(self,window = None,num=None):
self.insert = Tk()
self.insert.title("New Order")
self.m_frame = Frame(self.insert, height=1500, width=700, bg="maroon")
self.m_frame.pack()


## new order -- customer details
self.icf1 = Frame(self.m_frame, height=450, width=700, bg="maroon")
self.icf1.pack()
self.icl1 = Label(self.icf1, text = "Insert Customer Details",font= ("Times New Roman",16,"bold"),
bg="maroon", fg = "light cyan")
self.icl1.pack()
self.icl1.place(x = 220 , y = 30)
self.icl2 = Label(self.icf1, text = "Enter CID:",font= ("Times New Roman",12,"bold"), bg="maroon",
fg = "light cyan")
self.icl2.pack()
self.ice2 = Entry(self.icf1, width = 20)
self.ice2.pack()
self.icl3 = Label(self.icf1, text = "Enter Name:",font= ("Times New Roman",12,"bold"), bg="maroon",
fg = "light cyan")
self.icl3.pack()
self.ice3 = Entry(self.icf1, width = 20)
self.ice3.pack()
self.icl4 = Label(self.icf1, text = "Enter Mobicle No. :",font= ("Times New Roman",12,"bold"),
bg="maroon", fg = "light cyan")
self.icl4.pack()
self.ice4 = Entry(self.icf1, width = 20)
self.ice4.pack()
self.icl5 = Label(self.icf1, text = "Enter Address:",font= ("Times New Roman",12,"bold"),
bg="maroon", fg = "light cyan")
self.icl5.pack()
self.ice5 = Entry(self.icf1, width = 20)
self.ice5.pack()
self.icl6 = Label(self.icf1, text = "Enter Pincode:",font= ("Times New Roman",12,"bold"),
bg="maroon", fg = "light cyan")
self.icl6.pack()
self.ice6 = Entry(self.icf1, width = 20)
self.ice6.pack()
self.icl7 = Label(self.icf1, text = "Enter Date(YYYY-MM-DD):",font= ("Times New Roman",12,"bold"),
bg="maroon", fg = "light cyan")
self.icl7.pack()
self.ice7 = Entry(self.icf1, width = 20)
self.ice7.pack()
self.icb1 = Button(self.icf1,text = "Insert",width = 10,height=2,bg="palegreen4",fg='medium spring
green',
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```
command = lambda:self.buttonClick(window))
self.icb1.pack()

self.icl2.place(x = 90 , y = 100)
self.icl3.place(x = 90 , y = 140)
self.icl4.place(x = 90 , y = 180)
self.icl5.place(x = 90 , y = 220)
self.icl6.place(x = 90 , y = 260)
self.icl7.place(x = 90 , y = 300)

self.ice2.place(x = 400 , y = 100)
self.ice3.place(x = 400 , y = 140)
self.ice4.place(x = 400 , y = 180)
self.ice5.place(x = 400 , y = 220)
self.ice6.place(x = 400 , y = 260)
self.ice7.place(x = 400 , y = 300)
self.icb1.place(x = 400 , y = 350)

## new order -- Receiver details
self.idf1 = Frame(self.m_frame, height=450, width=700, bg="maroon")
self.idf1.pack()
self.idl1 = Label(self.idf1, text = "Insert Receiver Details",font= ("Times New Roman",16,"bold"),
bg="maroon", fg = "light cyan")
self.idl1.pack()
self.idl1.place(x = 220 , y = 30)
self.idl2 = Label(self.idf1, text = "Enter CID:",font= ("Times New Roman",12,"bold"), bg="maroon", fg
= "light cyan")
self.idl2.pack()
self.ide2 = Entry(self.idf1, width = 20)
self.ide2.pack()
self.idl3 = Label(self.idf1, text = "Enter Name:",font= ("Times New Roman",12,"bold"), bg="maroon",
fg = "light cyan")
self.idl3.pack()
self.ide3 = Entry(self.idf1, width = 20)
self.ide3.pack()
self.idl4 = Label(self.idf1, text = "Enter Mobicle No. :",font= ("Times New Roman",12,"bold"),
bg="maroon", fg = "light cyan")
self.idl4.pack()
self.ide4 = Entry(self.idf1, width = 20)
self.ide4.pack()
self.idl5 = Label(self.idf1, text = "Enter Address:",font= ("Times New Roman",12,"bold"),
bg="maroon", fg = "light cyan")
self.idl5.pack()
self.ide5 = Entry(self.idf1, width = 20)
self.ide5.pack()
self.idl6 = Label(self.idf1, text = "Enter Pincode:",font= ("Times New Roman",12,"bold"),
bg="maroon", fg = "light cyan")
self.idl6.pack()
self.ide6 = Entry(self.idf1, width = 20)
self.ide6.pack()
self.idl7 = Label(self.idf1, text = "Enter Due Date(YYYY-MM-DD):",font= ("Times New
Roman",12,"bold"), bg="maroon", fg = "light cyan")
self.idl7.pack()
self.ide7 = Entry(self.idf1, width = 20)
self.ide7.pack()
self.idb1 = Button(self.idf1,text = "Insert",width = 10,height=2,bg="palegreen4",fg='medium spring
green',command = lambda:self.buttonClick(window))
self.idb1.pack()

self.idl2.place(x = 90 , y = 100)
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```
self.idl3.place(x = 90 , y = 140)
self.idl4.place(x = 90 , y = 180)
self.idl5.place(x = 90 , y = 220)
self.idl6.place(x = 90 , y = 260)
self.idl7.place(x = 90 , y = 300)

self.ide2.place(x = 400 , y = 100)
self.ide3.place(x = 400 , y = 140)
self.ide4.place(x = 400 , y = 180)
self.ide5.place(x = 400 , y = 220)
self.ide6.place(x = 400 , y = 260)
self.ide7.place(x = 400 , y = 300)
self.idb1.place(x = 400 , y = 350)

##New customer-- Package Details
self.ipf1 = Frame(self.m_frame, height=450, width=700, bg="maroon")
self.ipf1.pack()
self.ipl1 = Label(self.ipf1, text = "Insert Package Details",font= ("Times New Roman",16,"bold"),
bg="maroon", fg = "light cyan")
self.ipl1.pack()
self.ipl1.place(x = 220 , y = 930)
self.ipl2 = Label(self.ipf1, text = "Enter Package ID:",font= ("Times New Roman",12,"bold"),
bg="maroon", fg = "light cyan")
self.ipl2.pack()
self.ipe2 = Entry(self.ipf1, width = 20)
self.ipe2.pack()
self.ipl3 = Label(self.ipf1, text = "Enter CID:",font= ("Times New Roman",12,"bold"), bg="maroon", fg
= "light cyan")
self.ipl3.pack()
self.ipe3 = Entry(self.ipf1, width = 20)
self.ipe3.pack()
self.ipl4 = Label(self.ipf1, text = "Enter Weight Class:",font= ("Times New Roman",12,"bold"),
bg="maroon", fg = "light cyan")
self.ipl4.pack()
self.ipe4 = Entry(self.ipf1, width = 20)
self.ipe4.pack()
self.ipl5 = Label(self.ipf1, text = "Enter Product Type:",font= ("Times New Roman",12,"bold"),
bg="maroon", fg = "light cyan")
self.ipl5.pack()
self.ipe5 = Entry(self.ipf1, width = 20)
self.ipe5.pack()
self.ipb1 = Button(self.ipf1,text = "Insert",width = 10,height=2,bg="palegreen4",fg='medium spring
green',command = lambda:self.buttonClick(window))
self.ipb1.pack()

self.ipl2.place(x = 90 , y = 100)
self.ipl3.place(x = 90 , y = 140)
self.ipl4.place(x = 90 , y = 180)
self.ipl5.place(x = 90 , y = 220)

self.ipe2.place(x = 400 , y = 100)
self.ipe3.place(x = 400 , y = 140)
self.ipe4.place(x = 400 , y = 180)
self.ipe5.place(x = 400 , y = 220)
self.ipb1.place(x = 400 , y = 270)

def tra_run(self,track):
cid=self.te2.get()
pid=self.te3.get()
cursor.execute(f"Select order_Picked,On_way,Order_Delivered from Tracking where CID={cid} and
```

```
Package_id=\"{pid}\"")
r=cursor.fetchall()[0]

self.tl7=Label(self.track,text=r[0].strftime("%Y-%m-%d %H:%M:%S"),font= ("Times New
Roman",12,"bold"), bg="maroon", fg = "light cyan")
self.tl7.pack()
self.tl8=Label(self.track,text=r[1].strftime("%Y-%m-%d %H:%M:%S"),font= ("Times New
Roman",12,"bold"), bg="maroon", fg = "light cyan")
self.tl8.pack()
self.tl9=Label(self.track,text=r[2].strftime("%Y-%m-%d %H:%M:%S"),font= ("Times New
Roman",12,"bold"), bg="maroon", fg = "light cyan")
self.tl9.pack()
self.tl7.place(x=300, y=300)
self.tl8.place(x=300, y=350)
self.tl9.place(x=300, y=400)

def Track_Your_Order(self,window=None):
tv1=StringVar()
tv2=StringVar()
self.track=Toplevel(window)
self.track.title("Tracking")



self.t= Frame(self.track, height=600, width=600, bg="maroon", cursor='cross')
self.t.pack()
self.tl1 = Label(self.t, text = "Track Your Order Here",font= ("Times New Roman",16,"bold"),
bg="maroon", fg = "light cyan")
self.tl1.pack()
self.tl1.place(x = 130 , y = 50)
self.tl2 = Label(self.t, text = "Enter CID:",font= ("Times New Roman",12,"bold"), bg="maroon", fg =
"light cyan")
self.tl2.pack()
self.tl3 = Label(self.t, text = "Enter Package Id:",font= ("Times New Roman",12,"bold"),
bg="maroon", fg = "light cyan")
self.tl3.pack()
self.te2 = Entry(self.t,textvariable=tv1, width = 20)
self.te2.pack()
self.te3 = Entry(self.t,textvariable=tv2 ,width = 20)
self.te3.pack()
self.tb1 = Button(self.t,text = "Track",width = 10,height=2,bg="palegreen4",fg='medium spring
green',command = lambda:self.tra_run(window))
self.tb1.pack()
self.tl4=Label(self.t,text="Order picked: ",font= ("Times New Roman",12,"bold"), bg="maroon", fg =
"light cyan")
self.tl4.pack()
self.tl5=Label(self.t,text="On Way: ",font= ("Times New Roman",12,"bold"), bg="maroon", fg = "light
cyan")
self.tl5.pack()
self.tl6=Label(self.t,text="Order Delivered: ",font= ("Times New Roman",12,"bold"),
 bg="maroon", fg = "light cyan")
self.tl6.pack()

self.tl2.place(x = 110 , y = 100)
self.tl3.place(x = 110 , y = 150)
self.te2.place(x = 300 , y = 100)
self.te3.place(x = 300 , y = 150)
self.tb1.place(x = 200 , y = 250)
self.tl4.place(x = 110 , y = 300)
self.tl5.place(x = 110 , y = 350)
```

```
self.tl6.place(x = 110 , y = 400)




d=DATA(window,mydb,cursor)
window.mainloop()
```