МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ   
РОССИЙСКОЙ ФЕДЕРАЦИИ

ФЕДЕРАЛЬНОЕ ГОСУДАРСТВЕННОЕ БЮДЖЕТНОЕ ОБРАЗОВАТЕЛЬНОЕ УЧРЕЖДЕНИЕ ВЫСШЕГО ОБРАЗОВАНИЯ

**«БЕЛГОРОДСКИЙ ГОСУДАРСТВЕННЫЙ**

**ТЕХНОЛОГИЧЕСКИЙ УНИВЕРСИТЕТ им. В. Г. ШУХОВА»**

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Лабораторная работа №6

по дисциплине «Базы данных»

тема: «Создание графического интерфейса для взаимодействия с БД»

Выполнил: ст. группы ВТ-32

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**Цель работы**: научиться писать графический интерфейс для работы с базой данных

**Задание**

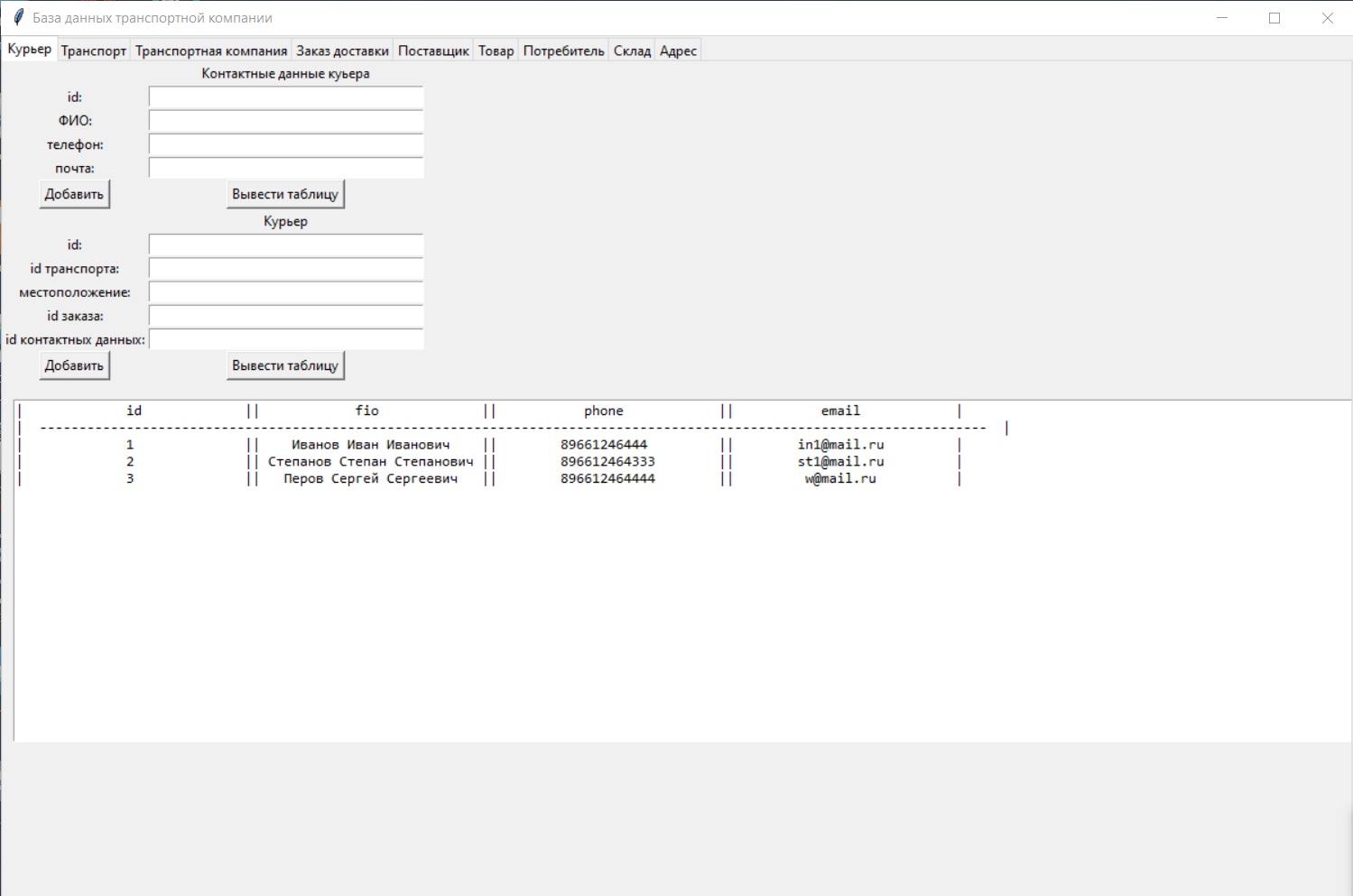
Написать графический интерфейс, позволяющий работать с базой данных

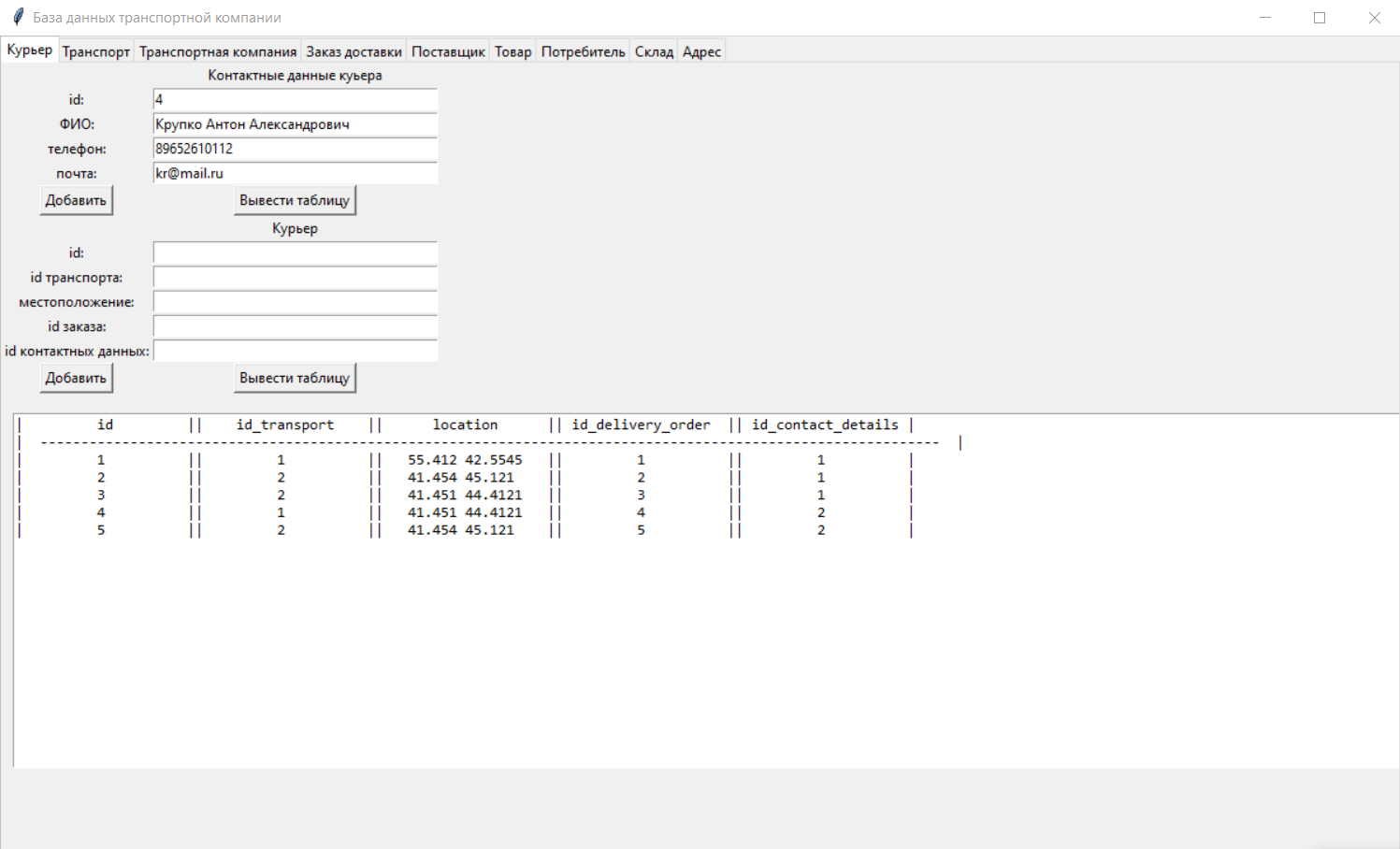
Код программы

import psycopg2  
from psycopg2 import OperationalError  
from tkinter import \*  
from tkinter import ttk  
  
class BD: *# Класс "БД"* def \_\_init\_\_(self, db\_name, db\_user, db\_password, db\_host, db\_port):  
 try:  
 self.connection = psycopg2.connect(  
 database=db\_name,  
 user=db\_user,  
 password=db\_password,  
 host=db\_host,  
 port=db\_port,  
 )  
 self.cursor = self.connection.cursor()  
 except OperationalError as e:  
 print(**f"The error '**{e}**' occurred"**)  
  
 *# Исполнение запроса* def execute(self, query):  
 try:  
 self.cursor.execute(query)  
 self.connection.commit()  
 return True  
 except OperationalError as e:  
 print(**f"The error '**{e}**' occurred"**)  
 return False  
 *# Выборка из БД* def select(self, query):  
 try:  
 self.cursor.execute(query)  
 res = self.cursor.fetchall()  
 return res  
 except OperationalError as e:  
 print(**f"The error '**{e}**' occurred"**)  
 return None  
 *# Вывод таблицы БД на экран* def print\_table(self, table\_name):  
 self.cursor.execute(**f"SELECT \* FROM** {table\_name}**"**)  
 header = [i[0] for i in self.cursor.description]  
 body = self.cursor.fetchall()  
 max\_len = max([len(x) for x in header])  
 for i in body:  
 for j in i:  
 if len(str(j)) > max\_len:  
 max\_len = len(str(j))  
 max\_len += 2  
 for i in header:  
 print(**"|"**, (**"{:^"** + str(max\_len) + **"s}"**).format(i), **"|"**, end=**""**)  
 print(**"**\n**| "**, **"-"** \* (max\_len + 2) \* len(header), **" |"**)  
 for i in body:  
 for j in i:  
 print(**"|"**, (**"{:^"** + str(max\_len) + **"s}"**).format(str(j)), **"|"**, end=**""**)  
 print()  
  
 def str\_table(self, table\_name):  
 res = []  
 self.cursor.execute(**f"SELECT \* FROM** {table\_name}**"**);  
 header = [i[0] for i in self.cursor.description] *# Получим имена столбцов таблицы* body = self.cursor.fetchall() *# Получим список строк таблицы* max\_len = 0 *# Найдем максимальную длину поля таблицы в строковом представлении* for i in header:  
 if len(i) > max\_len:  
 max\_len = len(i)  
 for i in body:  
 for j in i:  
 if len(str(j)) > max\_len:  
 max\_len = len(str(j))  
 max\_len += 2  
 bufStr = **""** for i in header: *# Выведем таблицу* bufStr += **"|"** + (**"{:^"** + str(max\_len) + **"s}"**).format(i) + **"|"** res.append(bufStr)  
 res.append(**"| "** + **"-"** \* (max\_len + 2) \* len(header) + **" |"**)  
 for i in body:  
 bufStr = **""** for j in i:  
 bufStr += **"|"** + (**"{:^"** + str(max\_len) + **"s}"**).format(str(j)) + **"|"** res.append(bufStr)  
 return **'**\n**'**.join(res)  
  
*# курьер*def insert\_courier\_contact\_details():  
 queryInsertcourier = **f"""INSERT INTO courier\_contact\_details (id, fio, phone, email)   
 VALUES (**{text\_courier\_contact\_details\_id.get()}**, '**{text\_courier\_contact\_details\_fio.get()}**', '**{text\_courier\_contact\_details\_phone.get()}**', '**{text\_courier\_contact\_details\_email.get()}**')"""** bd.execute(queryInsertcourier)  
  
def output\_courier\_contact\_details():  
 textOutputCourier.delete(1.0, END)  
 textOutputCourier.insert(1.0, bd.str\_table(**"courier\_contact\_details"**))  
  
def insert\_courier():  
 queryInsertcourier = **f"""INSERT INTO courier (id, id\_transport, location, id\_delivery\_order, id\_contact\_details)   
 VALUES (**{text\_courier\_id.get()}**,** {text\_courier\_id\_transport.get()}**, '**{text\_courier\_location.get()}**',** {text\_courier\_id\_delivery\_order.get()}**,** {text\_courier\_id\_contact\_details.get()}**)"""** bd.execute(queryInsertcourier)  
  
def output\_courier():  
 textOutputCourier.delete(1.0, END)  
 textOutputCourier.insert(1.0, bd.str\_table(**"courier"**))  
  
def insert\_type\_transport():  
 queryInsertcourier = **f"""INSERT INTO type\_transport (id, type)   
 VALUES (**{text\_type\_transport\_id.get()}**,'**{text\_type\_transport\_type.get()}**')"""** bd.execute(queryInsertcourier)  
  
def output\_type\_transport():  
 textOutputTransport.delete(1.0, END)  
 textOutputTransport.insert(1.0, bd.str\_table(**"type\_transport"**))  
  
def insert\_size\_transport():  
 queryInsertTransport = **f"""INSERT INTO type\_size\_transport (id, size, id\_type)   
 VALUES (**{text\_size\_transport\_id.get()}**,**{text\_size\_transport\_size.get()}**,** {text\_size\_transport\_type.get()}**)"""** bd.execute(queryInsertTransport)  
  
def output\_size\_transport():  
 textOutputTransport.delete(1.0, END)  
 textOutputTransport.insert(1.0, bd.str\_table(**"type\_size\_transport"**))  
  
def insert\_model\_transport():  
 queryInsertTransport = **f"""INSERT INTO model\_transport (id, model)   
 VALUES (**{text\_model\_transport\_id.get()}**,'**{text\_model\_transport\_model.get()}**')"""** bd.execute(queryInsertTransport)  
  
def output\_model\_transport():  
 textOutputTransport.delete(1.0, END)  
 textOutputTransport.insert(1.0, bd.str\_table(**"model\_transport"**))  
  
def insert\_transport():  
 queryInsertTransport = **f"""INSERT INTO transport (id, id\_type\_size, model)   
 VALUES (**{text\_transport\_id.get()}**,**{text\_transport\_type\_size.get()}**,**{text\_transport\_model.get()}**)"""** bd.execute(queryInsertTransport)  
  
def output\_transport():  
 textOutputTransport.delete(1.0, END)  
 textOutputTransport.insert(1.0, bd.str\_table(**"transport"**))  
  
def insert\_transport\_company\_contact():  
 queryInsertTransportCompany = **f"""INSERT INTO transport\_company\_contact\_details (id, name, description, email, phone)   
 VALUES (**{text\_transport\_company\_contact\_id.get()}**, '**{text\_transport\_company\_contact\_name.get()}**','**{text\_transport\_company\_contact\_dscription.get()}**','**{text\_transport\_company\_contact\_email.get()}**','**{text\_transport\_company\_contact\_phone.get()}**')"""** bd.execute(queryInsertTransportCompany)  
  
def output\_transport\_company\_contact():  
 textOutputTransportCompany.delete(1.0, END)  
 textOutputTransportCompany.insert(1.0, bd.str\_table(**"transport\_company\_contact\_details"**))  
  
def insert\_transport\_company():  
 queryInsertTransportCompany = **f"""INSERT INTO transport\_company (id, id\_courier, id\_delivery\_order, id\_adress, id\_contact\_details)   
 VALUES (**{text\_transport\_company\_id.get()}**,**{text\_transport\_company\_id\_courier.get()}**,**{text\_transport\_company\_id\_order.get()}**,**{text\_transport\_company\_id\_adress.get()}**,**{text\_transport\_company\_id\_contact\_details.get()}**)"""** bd.execute(queryInsertTransportCompany)  
  
def output\_transport\_company():  
 textOutputTransportCompany.delete(1.0, END)  
 textOutputTransportCompany.insert(1.0, bd.str\_table(**"transport\_company"**))  
  
def insert\_delivery\_order\_type():  
 queryInsertOutputDeliveryOrder = **f"""INSERT INTO delivery\_type (id, type)   
 VALUES (**{text\_delivery\_order\_type\_id.get()}**,'**{text\_delivery\_order\_type\_type.get()}**')"""** bd.execute(queryInsertOutputDeliveryOrder)  
  
def output\_delivery\_order\_type():  
 textOutputDeliveryOrder.delete(1.0, END)  
 textOutputDeliveryOrder.insert(1.0, bd.str\_table(**"type\_delivery"**))  
  
def insert\_delivery\_order():  
 queryInsertOutputDeliveryOrder = **f"""INSERT INTO delivery\_order(id, id\_product, price, start\_date, end\_date, type\_delivery)   
 VALUES (**{text\_delivery\_order\_id.get()}**,**{text\_delivery\_order\_id\_product.get()}**,**{text\_delivery\_order\_price.get()}**,'**{text\_delivery\_order\_start\_date.get()}**', ,'**{text\_delivery\_order\_end\_date.get()}**', ,**{text\_delivery\_order\_type\_delivery.get()}**)"""** bd.execute(queryInsertOutputDeliveryOrder)  
  
def output\_delivery\_order():  
 textOutputDeliveryOrder.delete(1.0, END)  
 textOutputDeliveryOrder.insert(1.0, bd.str\_table(**"delivery\_order"**))  
  
def insert\_provider\_contact():  
 queryInsertProvider = **f"""INSERT INTO provider\_contact\_details (id, name, description, email, phone)   
 VALUES (**{text\_provider\_contact\_details\_id.get()}**,'**{text\_provider\_contact\_details\_name.get()}**','**{text\_provider\_contact\_details\_dscription.get()}**','**{text\_provider\_contact\_details\_email.get()}**','**{text\_provider\_contact\_details\_phone.get()}**')"""** bd.execute(queryInsertProvider)  
  
def output\_provider\_contact():  
 textOutputProvider.delete(1.0, END)  
 textOutputProvider.insert(1.0, bd.str\_table(**"provider\_contact\_details"**))  
  
def insert\_provider():  
 queryInsertProvider = **f"""INSERT INTO provider (id, id\_product, id\_address, id\_contact\_details)   
 VALUES (**{text\_provider\_id.get()}**,**{text\_provider\_id\_product.get()}**,**{text\_provider\_id\_adress.get()}**,**{text\_provider\_id\_contact\_details.get()}**)"""** bd.execute(queryInsertProvider)  
  
def output\_provider():  
 textOutputProvider.delete(1.0, END)  
 textOutputProvider.insert(1.0, bd.str\_table(**"provider"**))  
  
def insert\_name\_product():  
 queryInsertProduct = **f"""INSERT INTO name\_product (id, name)   
 VALUES (**{text\_name\_product\_id.get()}**,'**{text\_name\_product\_name.get()}**')"""** bd.execute(queryInsertProduct)  
  
def output\_name\_product():  
 textOutputProduct.delete(1.0, END)  
 textOutputProduct.insert(1.0, bd.str\_table(**"name\_product"**))  
  
def insert\_product():  
 queryInsertProduct = **f"""INSERT INTO product (id, size, weight, id\_name, address)   
 VALUES (**{text\_product\_id.get()}**,**{text\_product\_size.get()}**,**{text\_product\_weight.get()}**,**{text\_product\_id\_name.get()}**,,**{text\_product\_id\_adress.get()}**)"""** bd.execute(queryInsertProduct)  
  
def output\_product():  
 textOutputProduct.delete(1.0, END)  
 textOutputProduct.insert(1.0, bd.str\_table(**"product"**))  
  
def insert\_consumer\_contact():  
 queryInsertConsumer = **f"""INSERT INTO consumer\_contact\_details (id, name, description, email, phone)   
 VALUES (**{text\_consumer\_contact\_id.get()}**,'**{text\_consumer\_contact\_name.get()}**','**{text\_consumer\_contact\_dscription.get()}**','**{text\_consumer\_contact\_email.get()}**','**{text\_consumer\_contact\_phone.get()}**')"""** bd.execute(queryInsertConsumer)  
  
def output\_consumer\_contact():  
 textOutputСonsumer.delete(1.0, END)  
 textOutputСonsumer.insert(1.0, bd.str\_table(**"consumer\_contact\_details"**))  
  
def insert\_consumer():  
 queryInsertConsumer = **f"""INSERT INTO consumer (id, id\_delivery\_order, id\_address, contact\_details)   
 VALUES (**{text\_consumer\_id.get()}**,**{text\_consumer\_id\_order.get()}**,**{text\_consumer\_id\_adress.get()}**,**{text\_consumer\_id\_contact\_details.get()}**)"""** bd.execute(queryInsertConsumer)  
  
def output\_consumer():  
 textOutputСonsumer.delete(1.0, END)  
 textOutputСonsumer.insert(1.0, bd.str\_table(**"consumer"**))  
  
def insert\_stoc():  
 queryInsertStoc = **f"""INSERT INTO stoc (id, id\_product, address\_stoc)   
 VALUES (**{text\_stoc\_id.get()}**,**{text\_size\_transport\_size.get()}**,**{text\_stoc\_id\_addres.get()}**)"""** bd.execute(queryInsertStoc)  
  
def output\_stoc():  
 textOutputStoc.delete(1.0, END)  
 textOutputStoc.insert(1.0, bd.str\_table(**"stoc"**))  
  
def insert\_addres\_county():  
 queryInsertAddres = **f"""INSERT INTO country (id, county)   
 VALUES (**{text\_addres\_country\_id.get()}**,**{text\_addres\_country\_name.get()}**)"""** bd.execute(queryInsertAddres)  
  
def output\_addres\_county():  
 textOutputAddres.delete(1.0, END)  
 textOutputAddres.insert(1.0, bd.str\_table(**"country"**))  
  
def insert\_addres\_sity():  
 queryInsertAddres = **f"""INSERT INTO city (id, city)   
 VALUES (**{text\_addres\_city\_id.get()}**,**{text\_addres\_city\_name.get()}**)"""** bd.execute(queryInsertAddres)  
  
def output\_addres\_sity():  
 textOutputAddres.delete(1.0, END)  
 textOutputAddres.insert(1.0, bd.str\_table(**"city"**))  
  
def insert\_addres\_street():  
 queryInsertAddres = **f"""INSERT INTO street (id, street)   
 VALUES (**{text\_addres\_street\_id.get()}**,**{text\_addres\_street\_name.get()}**)"""** bd.execute(queryInsertAddres)  
  
def output\_addres\_street():  
 textOutputAddres.delete(1.0, END)  
 textOutputAddres.insert(1.0, bd.str\_table(**"street"**))  
  
def insert\_addres\_bilding():  
 queryInsertAddres = **f"""INSERT INTO street (id, bilding)   
 VALUES (**{text\_addres\_bilding\_id.get()}**,**{text\_addres\_bilding\_name.get()}**)"""** bd.execute(queryInsertAddres)  
  
def output\_addres\_bilding():  
 textOutputAddres.delete(1.0, END)  
 textOutputAddres.insert(1.0, bd.str\_table(**"bilding"**))  
  
def insert\_addres():  
 queryInsertAddres = **f"""INSERT INTO address (id, country, city, street, bilding)   
 VALUES (**{text\_addres\_id.get()}**,**{text\_addres\_county.get()}**,**{text\_addres\_city.get()}**,**{text\_addres\_street.get()}**,,**{text\_addres\_bilding.get()}**)"""** bd.execute(queryInsertAddres)  
  
def output\_addres():  
 textOutputAddres.delete(1.0, END)  
 textOutputAddres.insert(1.0, bd.str\_table(**"address"**))  
if \_\_name\_\_ == **'\_\_main\_\_'**:  
 bd = BD(**"postgres"**, **"postgres"**, **"123456789"**, **"localhost"**, **"5432"**)  
  
  
 window = Tk()  
 window.title(**'База данных транспортной компании'**)  
 window.geometry(**'1200x800'**)  
 tables = ttk.Notebook(window)  
  
  
  
  
  
 *# курьер* frame\_courier = ttk.Frame(tables)  
 tables.add(frame\_courier, text=**'Курьер'**)  
 tables.pack(expand=2, fill=**'both'**)  
  
 lbl = Label(frame\_courier, text=**"Контактные данные куьера"**)  
 lbl.grid(row=0,column=1)  
  
 label\_courier\_contact\_details\_id = Label(frame\_courier, text=**'id:'**)  
 label\_courier\_contact\_details\_id.grid(row=1, column=0)  
 text\_courier\_contact\_details\_id = Entry(frame\_courier, width=40)  
 text\_courier\_contact\_details\_id.grid(row=1, column=1)  
  
 label\_courier\_id = Label(frame\_courier, text=**'ФИО:'**)  
 label\_courier\_id.grid(row=2, column=0)  
 text\_courier\_contact\_details\_fio = Entry(frame\_courier, width=40)  
 text\_courier\_contact\_details\_fio.grid(row=2, column=1)  
  
 label\_courier\_contact\_details\_phone = Label(frame\_courier, text=**'телефон:'**)  
 label\_courier\_contact\_details\_phone.grid(row=3, column=0)  
 text\_courier\_contact\_details\_phone = Entry(frame\_courier, width=40)  
 text\_courier\_contact\_details\_phone.grid(row=3, column=1)  
  
 label\_courier\_contact\_details\_email = Label(frame\_courier, text=**'почта:'**)  
 label\_courier\_contact\_details\_email.grid(row=4, column=0)  
 text\_courier\_contact\_details\_email = Entry(frame\_courier, width=40)  
 text\_courier\_contact\_details\_email.grid(row=4, column=1)  
  
 btn = Button(frame\_courier, text=**'Добавить'**, command=insert\_courier\_contact\_details)  
 btn.grid(row=5, column=0)  
  
 btnOutput = Button(frame\_courier, text=**'Вывести таблицу'**, command=output\_courier\_contact\_details)  
 btnOutput.grid(row=5, column=1)  
  
 lbl = Label(frame\_courier, text=**"Курьер"**)  
 lbl.grid(row=6, column=1)  
  
 label\_courier\_id = Label(frame\_courier, text=**'id:'**)  
 label\_courier\_id.grid(row=7, column=0)  
 text\_courier\_id = Entry(frame\_courier, width=40)  
 text\_courier\_id.grid(row=7, column=1)  
  
 label\_courier\_id\_transport = Label(frame\_courier, text=**'id транспорта:'**)  
 label\_courier\_id\_transport.grid(row=8, column=0)  
 text\_courier\_id\_transport = Entry(frame\_courier, width=40)  
 text\_courier\_id\_transport.grid(row=8, column=1)  
  
 label\_courier\_location = Label(frame\_courier, text=**'местоположение:'**)  
 label\_courier\_location.grid(row=9, column=0)  
 text\_courier\_location = Entry(frame\_courier, width=40)  
 text\_courier\_location.grid(row=9, column=1)  
  
  
 label\_courier\_id\_delivery\_order = Label(frame\_courier, text=**'id заказа:'**)  
 label\_courier\_id\_delivery\_order.grid(row=10, column=0)  
 text\_courier\_id\_delivery\_order = Entry(frame\_courier, width=40)  
 text\_courier\_id\_delivery\_order.grid(row=10, column=1)  
  
  
 label\_courier\_id\_contact\_details = Label(frame\_courier, text=**'id контактных данных:'**)  
 label\_courier\_id\_contact\_details.grid(row=11, column=0)  
 text\_courier\_id\_contact\_details = Entry(frame\_courier, width=40)  
 text\_courier\_id\_contact\_details.grid(row=11, column=1)  
  
 btn = Button(frame\_courier, text=**'Добавить'**, command=insert\_courier)  
 btn.grid(row=12, column=0)  
  
 btnOutput = Button(frame\_courier, text=**'Вывести таблицу'**, command=output\_courier)  
 btnOutput.grid(row=12, column=1)  
  
 textOutputCourier = Text(frame\_courier, width=200, height=20, font=**'Consolas 10'**)  
 textOutputCourier.place(x=10, y=300)  
  
 *# транспорт* frame\_transport = ttk.Frame(tables)  
 tables.add(frame\_transport, text=**'Транспорт'**)  
 tables.pack(expand=2, fill=**'both'**)  
  
 lbl = Label(frame\_transport, text=**"Тип транспорта"**)  
 lbl.grid(row=0, column=1)  
  
 label\_type\_transport\_id = Label(frame\_transport, text=**'id:'**)  
 label\_type\_transport\_id.grid(row=1, column=0)  
 text\_type\_transport\_id = Entry(frame\_transport, width=40)  
 text\_type\_transport\_id.grid(row=1, column=1)  
  
 label\_type\_transport\_type = Label(frame\_transport, text=**'тип:'**)  
 label\_type\_transport\_type.grid(row=2, column=0)  
 text\_type\_transport\_type = Entry(frame\_transport, width=40)  
 text\_type\_transport\_type.grid(row=2, column=1)  
  
 btn = Button(frame\_transport, text=**'Добавить'**, command=insert\_type\_transport)  
 btn.grid(row=3, column=0)  
  
 btnOutput = Button(frame\_transport, text=**'Вывести таблицу'**, command=output\_type\_transport)  
 btnOutput.grid(row=3, column=1)  
  
 lbl = Label(frame\_transport, text=**"Размер транспорта"**)  
 lbl.grid(row=0, column=3)  
  
 label\_size\_transport\_id = Label(frame\_transport, text=**'id:'**)  
 label\_size\_transport\_id.grid(row=1, column=2)  
 text\_size\_transport\_id = Entry(frame\_transport, width=40)  
 text\_size\_transport\_id.grid(row=1, column=3)  
  
 label\_size\_transport\_size = Label(frame\_transport, text=**'размер:'**)  
 label\_size\_transport\_size.grid(row=2, column=2)  
 text\_size\_transport\_size = Entry(frame\_transport, width=40)  
 text\_size\_transport\_size.grid(row=2, column=3)  
  
 label\_size\_transport\_type = Label(frame\_transport, text=**'тип транспорта:'**)  
 label\_size\_transport\_type.grid(row=3, column=2)  
 text\_size\_transport\_type = Entry(frame\_transport, width=40)  
 text\_size\_transport\_type.grid(row=3, column=3)  
  
 btn = Button(frame\_transport, text=**'Добавить'**, command=insert\_size\_transport)  
 btn.grid(row=4, column=2)  
  
 btnOutput = Button(frame\_transport, text=**'Вывести таблицу'**, command=output\_size\_transport)  
 btnOutput.grid(row=4, column=3)  
  
 lbl = Label(frame\_transport, text=**"Модель транспорта"**)  
 lbl.grid(row=0, column=5)  
  
 label\_model\_transport\_id = Label(frame\_transport, text=**'id:'**)  
 label\_model\_transport\_id.grid(row=1, column=4)  
 text\_model\_transport\_id = Entry(frame\_transport, width=40)  
 text\_model\_transport\_id.grid(row=1, column=5)  
  
 label\_model\_transport\_model = Label(frame\_transport, text=**'модель:'**)  
 label\_model\_transport\_model.grid(row=2, column=4)  
 text\_model\_transport\_model = Entry(frame\_transport, width=40)  
 text\_model\_transport\_model.grid(row=2, column=5)  
  
 btn = Button(frame\_transport, text=**'Добавить'**, command=insert\_model\_transport)  
 btn.grid(row=3, column=4)  
  
 btnOutput = Button(frame\_transport, text=**'Вывести таблицу'**, command=output\_model\_transport)  
 btnOutput.grid(row=3, column=5)  
  
 lbl = Label(frame\_transport, text=**"Транспорт"**)  
 lbl.grid(row=5, column=1)  
  
 label\_transport\_id = Label(frame\_transport, text=**'id:'**)  
 label\_transport\_id.grid(row=6, column=0)  
 text\_transport\_id = Entry(frame\_transport, width=40)  
 text\_transport\_id.grid(row=6, column=1)  
  
 label\_transport\_type\_size = Label(frame\_transport, text=**'id типа и размера:'**)  
 label\_transport\_type\_size.grid(row=7, column=0)  
 text\_transport\_type\_size = Entry(frame\_transport, width=40)  
 text\_transport\_type\_size.grid(row=7, column=1)  
  
 label\_transport\_model = Label(frame\_transport, text=**'модель:'**)  
 label\_transport\_model.grid(row=8, column=0)  
 text\_transport\_model = Entry(frame\_transport, width=40)  
 text\_transport\_model.grid(row=8, column=1)  
  
 btn = Button(frame\_transport, text=**'Добавить'**, command=insert\_transport)  
 btn.grid(row=9, column=0)  
  
 btnOutput = Button(frame\_transport, text=**'Вывести таблицу'**, command=output\_transport)  
 btnOutput.grid(row=9, column=1)  
  
 textOutputTransport = Text(frame\_transport, width=200, height=20, font=**'Consolas 10'**)  
 textOutputTransport.place(x=10, y=300)  
  
 *# транспортная компания* frame\_transport\_company = ttk.Frame(tables)  
 tables.add(frame\_transport\_company, text=**'Транспортная компания'**)  
 tables.pack(expand=2, fill=**'both'**)  
  
 lbl = Label(frame\_transport\_company, text=**"контакты компании"**)  
 lbl.grid(row=0, column=1)  
  
 label\_transport\_company\_contact\_id = Label(frame\_transport\_company, text=**'id:'**)  
 label\_transport\_company\_contact\_id.grid(row=1, column=0)  
 text\_transport\_company\_contact\_id = Entry(frame\_transport\_company, width=40)  
 text\_transport\_company\_contact\_id.grid(row=1, column=1)  
  
 label\_transport\_company\_contact\_name = Label(frame\_transport\_company, text=**'название:'**)  
 label\_transport\_company\_contact\_name.grid(row=2, column=0)  
 text\_transport\_company\_contact\_name = Entry(frame\_transport\_company, width=40)  
 text\_transport\_company\_contact\_name.grid(row=2, column=1)  
  
 label\_transport\_company\_contact\_dscription = Label(frame\_transport\_company, text=**'описание:'**)  
 label\_transport\_company\_contact\_dscription.grid(row=3, column=0)  
 text\_transport\_company\_contact\_dscription = Entry(frame\_transport\_company, width=40)  
 text\_transport\_company\_contact\_dscription.grid(row=3, column=1)  
  
 label\_transport\_company\_contact\_email = Label(frame\_transport\_company, text=**'email:'**)  
 label\_transport\_company\_contact\_email.grid(row=4, column=0)  
 text\_transport\_company\_contact\_email = Entry(frame\_transport\_company, width=40)  
 text\_transport\_company\_contact\_email.grid(row=4, column=1)  
  
 label\_transport\_company\_contact\_phone = Label(frame\_transport\_company, text=**'телефон:'**)  
 label\_transport\_company\_contact\_phone.grid(row=5, column=0)  
 text\_transport\_company\_contact\_phone = Entry(frame\_transport\_company, width=40)  
 text\_transport\_company\_contact\_phone.grid(row=5, column=1)  
  
 btn = Button(frame\_transport\_company, text=**'Добавить'**, command=insert\_transport\_company\_contact)  
 btn.grid(row=6, column=0)  
  
 btnOutput = Button(frame\_transport\_company, text=**'Вывести таблицу'**, command=output\_transport\_company\_contact)  
 btnOutput.grid(row=6, column=1)  
  
 lbl = Label(frame\_transport\_company, text=**"транспортная компания"**)  
 lbl.grid(row=0, column=3)  
  
 label\_transport\_company\_id = Label(frame\_transport\_company, text=**'id:'**)  
 label\_transport\_company\_id.grid(row=1, column=2)  
 text\_transport\_company\_id = Entry(frame\_transport\_company, width=40)  
 text\_transport\_company\_id.grid(row=1, column=3)  
  
 label\_transport\_company\_id\_courier = Label(frame\_transport\_company, text=**'id курьера:'**)  
 label\_transport\_company\_id\_courier.grid(row=2, column=2)  
 text\_transport\_company\_id\_courier = Entry(frame\_transport\_company, width=40)  
 text\_transport\_company\_id\_courier.grid(row=2, column=3)  
  
 label\_transport\_company\_id\_order = Label(frame\_transport\_company, text=**'id заказа:'**)  
 label\_transport\_company\_id\_order.grid(row=3, column=2)  
 text\_transport\_company\_id\_order = Entry(frame\_transport\_company, width=40)  
 text\_transport\_company\_id\_order.grid(row=3, column=3)  
  
 label\_transport\_company\_id\_adress = Label(frame\_transport\_company, text=**'id адреса:'**)  
 label\_transport\_company\_id\_adress.grid(row=4, column=2)  
 text\_transport\_company\_id\_adress = Entry(frame\_transport\_company, width=40)  
 text\_transport\_company\_id\_adress.grid(row=4, column=3)  
  
 label\_transport\_company\_id\_contact\_details = Label(frame\_transport\_company, text=**'id контактных данных:'**)  
 label\_transport\_company\_id\_contact\_details.grid(row=5, column=2)  
 text\_transport\_company\_id\_contact\_details = Entry(frame\_transport\_company, width=40)  
 text\_transport\_company\_id\_contact\_details.grid(row=5, column=3)  
  
 btn = Button(frame\_transport\_company, text=**'Добавить'**, command=insert\_transport\_company)  
 btn.grid(row=6, column=2)  
  
 btnOutput = Button(frame\_transport\_company, text=**'Вывести таблицу'**, command=output\_transport\_company)  
 btnOutput.grid(row=6, column=3)  
  
  
 textOutputTransportCompany = Text(frame\_transport\_company, width=200, height=20, font=**'Consolas 10'**)  
 textOutputTransportCompany.place(x=10, y=300)  
  
 *# заказ доставка* frame\_delivery\_order = ttk.Frame(tables)  
 tables.add(frame\_delivery\_order, text=**'Заказ доставки'**)  
 tables.pack(expand=2, fill=**'both'**)  
  
 lbl = Label(frame\_delivery\_order, text=**"тип доставки"**)  
 lbl.grid(row=0, column=1)  
  
 label\_delivery\_order\_type\_id = Label(frame\_delivery\_order, text=**'id:'**)  
 label\_delivery\_order\_type\_id.grid(row=1, column=0)  
 text\_delivery\_order\_type\_id = Entry(frame\_delivery\_order, width=40)  
 text\_delivery\_order\_type\_id.grid(row=1, column=1)  
  
 label\_delivery\_order\_type\_type = Label(frame\_delivery\_order, text=**'тип:'**)  
 label\_delivery\_order\_type\_type.grid(row=2, column=0)  
 text\_delivery\_order\_type\_type = Entry(frame\_delivery\_order, width=40)  
 text\_delivery\_order\_type\_type.grid(row=2, column=1)  
  
 btn = Button(frame\_delivery\_order, text=**'Добавить'**, command=insert\_delivery\_order\_type)  
 btn.grid(row=3, column=0)  
  
 btnOutput = Button(frame\_delivery\_order, text=**'Вывести таблицу'**, command=output\_delivery\_order\_type)  
 btnOutput.grid(row=3, column=1)  
  
 lbl = Label(frame\_delivery\_order, text=**"заказ доставки"**)  
 lbl.grid(row=0, column=3)  
  
 label\_delivery\_order\_id = Label(frame\_delivery\_order, text=**'id:'**)  
 label\_delivery\_order\_id.grid(row=1, column=2)  
 text\_delivery\_order\_id = Entry(frame\_delivery\_order, width=40)  
 text\_delivery\_order\_id.grid(row=1, column=3)  
  
 label\_delivery\_order\_id\_product = Label(frame\_delivery\_order, text=**'id товара:'**)  
 label\_delivery\_order\_id\_product.grid(row=2, column=2)  
 text\_delivery\_order\_id\_product = Entry(frame\_delivery\_order, width=40)  
 text\_delivery\_order\_id\_product.grid(row=2, column=3)  
  
 label\_delivery\_order\_price = Label(frame\_delivery\_order, text=**'цена:'**)  
 label\_delivery\_order\_price.grid(row=3, column=2)  
 text\_delivery\_order\_price = Entry(frame\_delivery\_order, width=40)  
 text\_delivery\_order\_price.grid(row=3, column=3)  
  
 label\_delivery\_order\_start\_date = Label(frame\_delivery\_order, text=**'дата поступления:'**)  
 label\_delivery\_order\_start\_date.grid(row=4, column=2)  
 text\_delivery\_order\_start\_date = Entry(frame\_delivery\_order, width=40)  
 text\_delivery\_order\_start\_date.grid(row=4, column=3)  
  
 label\_delivery\_order\_end\_date = Label(frame\_delivery\_order, text=**'дата завершения:'**)  
 label\_delivery\_order\_end\_date.grid(row=5, column=2)  
 text\_delivery\_order\_end\_date = Entry(frame\_delivery\_order, width=40)  
 text\_delivery\_order\_end\_date.grid(row=5, column=3)  
  
 label\_delivery\_order\_type\_delivery = Label(frame\_delivery\_order, text=**'id типа доставки:'**)  
 label\_delivery\_order\_type\_delivery.grid(row=6, column=2)  
 text\_delivery\_order\_type\_delivery = Entry(frame\_delivery\_order, width=40)  
 text\_delivery\_order\_type\_delivery.grid(row=6, column=3)  
  
 btn = Button(frame\_delivery\_order, text=**'Добавить'**, command=insert\_delivery\_order)  
 btn.grid(row=7, column=2)  
  
 btnOutput = Button(frame\_delivery\_order, text=**'Вывести таблицу'**, command=output\_delivery\_order)  
 btnOutput.grid(row=7, column=3)  
  
 textOutputDeliveryOrder = Text(frame\_delivery\_order, width=200, height=20, font=**'Consolas 10'**)  
 textOutputDeliveryOrder.place(x=10, y=300)  
  
 *# поставщик* frame\_provider\_contact\_details = ttk.Frame(tables)  
 tables.add(frame\_provider\_contact\_details, text=**'Поставщик'**)  
 tables.pack(expand=2, fill=**'both'**)  
  
 lbl = Label(frame\_provider\_contact\_details, text=**"контакты поставщика"**)  
 lbl.grid(row=0, column=1)  
  
 label\_provider\_contact\_details\_id = Label(frame\_provider\_contact\_details, text=**'id:'**)  
 label\_provider\_contact\_details\_id.grid(row=1, column=0)  
 text\_provider\_contact\_details\_id = Entry(frame\_provider\_contact\_details, width=40)  
 text\_provider\_contact\_details\_id.grid(row=1, column=1)  
  
 label\_provider\_contact\_details\_name = Label(frame\_provider\_contact\_details, text=**'название:'**)  
 label\_provider\_contact\_details\_name.grid(row=2, column=0)  
 text\_provider\_contact\_details\_name = Entry(frame\_provider\_contact\_details, width=40)  
 text\_provider\_contact\_details\_name.grid(row=2, column=1)  
  
 label\_provider\_contact\_details\_dscription = Label(frame\_provider\_contact\_details, text=**'описание:'**)  
 label\_provider\_contact\_details\_dscription.grid(row=3, column=0)  
 text\_provider\_contact\_details\_dscription = Entry(frame\_provider\_contact\_details, width=40)  
 text\_provider\_contact\_details\_dscription.grid(row=3, column=1)  
  
 label\_provider\_contact\_details\_email = Label(frame\_provider\_contact\_details, text=**'email:'**)  
 label\_provider\_contact\_details\_email.grid(row=4, column=0)  
 text\_provider\_contact\_details\_email = Entry(frame\_provider\_contact\_details, width=40)  
 text\_provider\_contact\_details\_email.grid(row=4, column=1)  
  
 label\_provider\_contact\_details\_phone = Label(frame\_provider\_contact\_details, text=**'телефон:'**)  
 label\_provider\_contact\_details\_phone.grid(row=5, column=0)  
 text\_provider\_contact\_details\_phone = Entry(frame\_provider\_contact\_details, width=40)  
 text\_provider\_contact\_details\_phone.grid(row=5, column=1)  
  
 btn = Button(frame\_provider\_contact\_details, text=**'Добавить'**, command=insert\_provider\_contact)  
 btn.grid(row=6, column=0)  
  
 btnOutput = Button(frame\_provider\_contact\_details, text=**'Вывести таблицу'**, command=output\_provider\_contact)  
 btnOutput.grid(row=6, column=1)  
  
 lbl = Label(frame\_provider\_contact\_details, text=**"поставщик"**)  
 lbl.grid(row=0, column=3)  
  
 label\_provider\_id = Label(frame\_provider\_contact\_details, text=**'id:'**)  
 label\_provider\_id.grid(row=1, column=2)  
 text\_provider\_id = Entry(frame\_provider\_contact\_details, width=40)  
 text\_provider\_id.grid(row=1, column=3)  
  
 label\_provider\_id\_product = Label(frame\_provider\_contact\_details, text=**'id продукта:'**)  
 label\_provider\_id\_product.grid(row=2, column=2)  
 text\_provider\_id\_product = Entry(frame\_provider\_contact\_details, width=40)  
 text\_provider\_id\_product.grid(row=2, column=3)  
  
 label\_provider\_id\_adress = Label(frame\_provider\_contact\_details, text=**'id адреса:'**)  
 label\_provider\_id\_adress.grid(row=3, column=2)  
 text\_provider\_id\_adress = Entry(frame\_provider\_contact\_details, width=40)  
 text\_provider\_id\_adress.grid(row=3, column=3)  
  
 label\_provider\_id\_contact\_details = Label(frame\_provider\_contact\_details, text=**'id контактных данных:'**)  
 label\_provider\_id\_contact\_details.grid(row=4, column=2)  
 text\_provider\_id\_contact\_details = Entry(frame\_provider\_contact\_details, width=40)  
 text\_provider\_id\_contact\_details.grid(row=4, column=3)  
  
 btn = Button(frame\_provider\_contact\_details, text=**'Добавить'**, command=insert\_provider)  
 btn.grid(row=5, column=2)  
  
 btnOutput = Button(frame\_provider\_contact\_details, text=**'Вывести таблицу'**, command=output\_provider)  
 btnOutput.grid(row=5, column=3)  
  
 textOutputProvider = Text(frame\_provider\_contact\_details, width=200, height=20, font=**'Consolas 10'**)  
 textOutputProvider.place(x=10, y=300)  
  
 *# товар* frame\_product = ttk.Frame(tables)  
 tables.add(frame\_product, text=**'Товар'**)  
 tables.pack(expand=2, fill=**'both'**)  
  
 lbl = Label(frame\_product, text=**"наименование товара"**)  
 lbl.grid(row=0, column=1)  
  
 label\_name\_product\_id = Label(frame\_product, text=**'id:'**)  
 label\_name\_product\_id.grid(row=1, column=0)  
 text\_name\_product\_id = Entry(frame\_product, width=40)  
 text\_name\_product\_id.grid(row=1, column=1)  
  
 label\_name\_product\_name = Label(frame\_product, text=**'название:'**)  
 label\_name\_product\_name.grid(row=2, column=0)  
 text\_name\_product\_name = Entry(frame\_product, width=40)  
 text\_name\_product\_name.grid(row=2, column=1)  
  
 btn = Button(frame\_product, text=**'Добавить'**, command=insert\_name\_product)  
 btn.grid(row=3, column=0)  
  
 btnOutput = Button(frame\_product, text=**'Вывести таблицу'**, command=output\_name\_product)  
 btnOutput.grid(row=3, column=1)  
  
 lbl = Label(frame\_product, text=**"товар"**)  
 lbl.grid(row=0, column=3)  
  
 label\_product\_id = Label(frame\_product, text=**'id:'**)  
 label\_product\_id.grid(row=1, column=2)  
 text\_product\_id = Entry(frame\_product, width=40)  
 text\_product\_id.grid(row=1, column=3)  
  
 label\_product\_size = Label(frame\_product, text=**'размер:'**)  
 label\_product\_size.grid(row=2, column=2)  
 text\_product\_size = Entry(frame\_product, width=40)  
 text\_product\_size.grid(row=2, column=3)  
  
 label\_product\_weight = Label(frame\_product, text=**'вес:'**)  
 label\_product\_weight.grid(row=3, column=2)  
 text\_product\_weight = Entry(frame\_product, width=40)  
 text\_product\_weight.grid(row=3, column=3)  
  
 label\_product\_id\_name = Label(frame\_product, text=**'id наименования:'**)  
 label\_product\_id\_name.grid(row=4, column=2)  
 text\_product\_id\_name = Entry(frame\_product, width=40)  
 text\_product\_id\_name.grid(row=4, column=3)  
  
 label\_product\_id\_adress = Label(frame\_product, text=**'адрес где товар:'**)  
 label\_product\_id\_adress.grid(row=5, column=2)  
 text\_product\_id\_adress = Entry(frame\_product, width=40)  
 text\_product\_id\_adress.grid(row=5, column=3)  
  
 btn = Button(frame\_product, text=**'Добавить'**, command=insert\_product)  
 btn.grid(row=6, column=2)  
  
 btnOutput = Button(frame\_product, text=**'Вывести таблицу'**, command=output\_product)  
 btnOutput.grid(row=6, column=3)  
  
 textOutputProduct = Text(frame\_product, width=200, height=20, font=**'Consolas 10'**)  
 textOutputProduct.place(x=10, y=300)  
  
 *# потребитель* frame\_consumer = ttk.Frame(tables)  
 tables.add(frame\_consumer, text=**'Потребитель'**)  
 tables.pack(expand=2, fill=**'both'**)  
  
 lbl = Label(frame\_consumer, text=**"контакты потребителя"**)  
 lbl.grid(row=0, column=1)  
  
 label\_consumer\_contact\_id = Label(frame\_consumer, text=**'id:'**)  
 label\_consumer\_contact\_id.grid(row=1, column=0)  
 text\_consumer\_contact\_id = Entry(frame\_consumer, width=40)  
 text\_consumer\_contact\_id.grid(row=1, column=1)  
  
 label\_consumer\_contact\_name = Label(frame\_consumer, text=**'название:'**)  
 label\_consumer\_contact\_name.grid(row=2, column=0)  
 text\_consumer\_contact\_name = Entry(frame\_consumer, width=40)  
 text\_consumer\_contact\_name.grid(row=2, column=1)  
  
 label\_consumer\_contact\_dscription = Label(frame\_consumer, text=**'описание:'**)  
 label\_consumer\_contact\_dscription.grid(row=3, column=0)  
 text\_consumer\_contact\_dscription = Entry(frame\_consumer, width=40)  
 text\_consumer\_contact\_dscription.grid(row=3, column=1)  
  
 label\_consumer\_contact\_email = Label(frame\_consumer, text=**'email:'**)  
 label\_consumer\_contact\_email.grid(row=4, column=0)  
 text\_consumer\_contact\_email = Entry(frame\_consumer, width=40)  
 text\_consumer\_contact\_email.grid(row=4, column=1)  
  
 label\_consumer\_contact\_phone = Label(frame\_consumer, text=**'телефон:'**)  
 label\_consumer\_contact\_phone.grid(row=5, column=0)  
 text\_consumer\_contact\_phone = Entry(frame\_consumer, width=40)  
 text\_consumer\_contact\_phone.grid(row=5, column=1)  
  
 btn = Button(frame\_consumer, text=**'Добавить'**, command=insert\_consumer\_contact)  
 btn.grid(row=6, column=0)  
  
 btnOutput = Button(frame\_consumer, text=**'Вывести таблицу'**, command=output\_consumer\_contact)  
 btnOutput.grid(row=6, column=1)  
  
 lbl = Label(frame\_consumer, text=**"потребитель"**)  
 lbl.grid(row=0, column=3)  
  
 label\_consumer\_id = Label(frame\_consumer, text=**'id:'**)  
 label\_consumer\_id.grid(row=1, column=2)  
 text\_consumer\_id = Entry(frame\_consumer, width=40)  
 text\_consumer\_id.grid(row=1, column=3)  
  
 label\_consumer\_id\_order = Label(frame\_consumer, text=**'id заказа:'**)  
 label\_consumer\_id\_order.grid(row=2, column=2)  
 text\_consumer\_id\_order = Entry(frame\_consumer, width=40)  
 text\_consumer\_id\_order.grid(row=2, column=3)  
  
 label\_consumer\_id\_adress = Label(frame\_consumer, text=**'id адреса:'**)  
 label\_consumer\_id\_adress.grid(row=3, column=2)  
 text\_consumer\_id\_adress = Entry(frame\_consumer, width=40)  
 text\_consumer\_id\_adress.grid(row=3, column=3)  
  
 label\_consumer\_id\_contact\_details = Label(frame\_consumer, text=**'id контактных данных:'**)  
 label\_consumer\_id\_contact\_details.grid(row=4, column=2)  
 text\_consumer\_id\_contact\_details = Entry(frame\_consumer, width=40)  
 text\_consumer\_id\_contact\_details.grid(row=4, column=3)  
  
 btn = Button(frame\_consumer, text=**'Добавить'**, command=insert\_transport\_company)  
 btn.grid(row=5, column=2)  
  
 btnOutput = Button(frame\_consumer, text=**'Вывести таблицу'**, command=output\_consumer)  
 btnOutput.grid(row=5, column=3)  
  
 textOutputСonsumer = Text(frame\_consumer, width=200, height=20, font=**'Consolas 10'**)  
 textOutputСonsumer.place(x=10, y=200)  
  
 *# склад* frame\_stoc = ttk.Frame(tables)  
 tables.add(frame\_stoc, text=**'Склад'**)  
 tables.pack(expand=2, fill=**'both'**)  
  
 lbl = Label(frame\_stoc, text=**"склад"**)  
 lbl.grid(row=0, column=1)  
  
 label\_stoc\_id = Label(frame\_stoc, text=**'id:'**)  
 label\_stoc\_id.grid(row=1, column=0)  
 text\_stoc\_id = Entry(frame\_stoc, width=40)  
 text\_stoc\_id.grid(row=1, column=1)  
  
 label\_stoc\_id\_product = Label(frame\_stoc, text=**'id продукта:'**)  
 label\_stoc\_id\_product.grid(row=2, column=0)  
 text\_stoc\_id\_product = Entry(frame\_stoc, width=40)  
 text\_stoc\_id\_product.grid(row=2, column=1)  
  
 label\_stoc\_id\_addres = Label(frame\_stoc, text=**'id адреса:'**)  
 label\_stoc\_id\_addres.grid(row=3, column=0)  
 text\_stoc\_id\_addres = Entry(frame\_stoc, width=40)  
 text\_stoc\_id\_addres.grid(row=3, column=1)  
  
 btn = Button(frame\_stoc, text=**'Добавить'**, command=insert\_stoc)  
 btn.grid(row=4, column=0)  
  
 btnOutput = Button(frame\_stoc, text=**'Вывести таблицу'**, command=output\_stoc)  
 btnOutput.grid(row=4, column=1)  
  
 textOutputStoc = Text(frame\_stoc, width=200, height=20, font=**'Consolas 10'**)  
 textOutputStoc.place(x=10, y=200)  
  
 *# адресс* frame\_addres = ttk.Frame(tables)  
 tables.add(frame\_addres, text=**'Адрес'**)  
 tables.pack(expand=2, fill=**'both'**)  
  
 lbl = Label(frame\_addres, text=**"страна"**)  
 lbl.grid(row=0, column=1)  
  
 label\_addres\_country\_id = Label(frame\_addres, text=**'id:'**)  
 label\_addres\_country\_id.grid(row=1, column=0)  
 text\_addres\_country\_id = Entry(frame\_addres, width=40)  
 text\_addres\_country\_id.grid(row=1, column=1)  
  
 label\_addres\_country\_name = Label(frame\_addres, text=**'название:'**)  
 label\_addres\_country\_name.grid(row=2, column=0)  
 text\_addres\_country\_name = Entry(frame\_addres, width=40)  
 text\_addres\_country\_name.grid(row=2, column=1)  
  
 btn = Button(frame\_addres, text=**'Добавить'**, command=insert\_addres\_county)  
 btn.grid(row=3, column=0)  
  
 btnOutput = Button(frame\_addres, text=**'Вывести таблицу'**, command=output\_addres\_county)  
 btnOutput.grid(row=3, column=1)  
  
 lbl = Label(frame\_addres, text=**"город"**)  
 lbl.grid(row=0, column=3)  
  
 label\_addres\_city\_id = Label(frame\_addres, text=**'id:'**)  
 label\_addres\_city\_id.grid(row=1, column=2)  
 text\_addres\_city\_id = Entry(frame\_addres, width=40)  
 text\_addres\_city\_id.grid(row=1, column=3)  
  
 label\_addres\_city\_name = Label(frame\_addres, text=**'название:'**)  
 label\_addres\_city\_name.grid(row=2, column=2)  
 text\_addres\_city\_name = Entry(frame\_addres, width=40)  
 text\_addres\_city\_name.grid(row=2, column=3)  
  
 btn = Button(frame\_addres, text=**'Добавить'**, command=insert\_addres\_sity)  
 btn.grid(row=3, column=2)  
  
 btnOutput = Button(frame\_addres, text=**'Вывести таблицу'**, command=output\_addres\_sity)  
 btnOutput.grid(row=3, column=3)  
  
 lbl = Label(frame\_addres, text=**"улица"**)  
 lbl.grid(row=0, column=5)  
  
 label\_addres\_street\_id = Label(frame\_addres, text=**'id:'**)  
 label\_addres\_street\_id.grid(row=1, column=4)  
 text\_addres\_street\_id = Entry(frame\_addres, width=40)  
 text\_addres\_street\_id.grid(row=1, column=5)  
  
 label\_addres\_street\_name = Label(frame\_addres, text=**'название:'**)  
 label\_addres\_street\_name.grid(row=2, column=4)  
 text\_addres\_street\_name = Entry(frame\_addres, width=40)  
 text\_addres\_street\_name.grid(row=2, column=5)  
  
 btn = Button(frame\_addres, text=**'Добавить'**, command=insert\_addres\_street)  
 btn.grid(row=3, column=4)  
  
 btnOutput = Button(frame\_addres, text=**'Вывести таблицу'**, command=output\_addres\_street)  
 btnOutput.grid(row=3, column=5)  
  
 lbl = Label(frame\_addres, text=**"здание "**)  
 lbl.grid(row=0, column=7)  
  
 label\_addres\_bilding\_id = Label(frame\_addres, text=**'id:'**)  
 label\_addres\_bilding\_id.grid(row=1, column=6)  
 text\_addres\_bilding\_id = Entry(frame\_addres, width=40)  
 text\_addres\_bilding\_id.grid(row=1, column=7)  
  
 label\_addres\_bilding\_name = Label(frame\_addres, text=**'название:'**)  
 label\_addres\_bilding\_name.grid(row=2, column=6)  
 text\_addres\_bilding\_name = Entry(frame\_addres, width=40)  
 text\_addres\_bilding\_name.grid(row=2, column=7)  
  
 btn = Button(frame\_addres, text=**'Добавить'**, command=insert\_addres\_bilding)  
 btn.grid(row=3, column=6)  
  
 btnOutput = Button(frame\_addres, text=**'Вывести таблицу'**, command=output\_addres\_bilding)  
 btnOutput.grid(row=3, column=7)  
  
 lbl = Label(frame\_addres, text=**"адрес "**)  
 lbl.grid(row=4, column=1)  
  
 label\_addres\_id = Label(frame\_addres, text=**'id:'**)  
 label\_addres\_id.grid(row=5, column=0)  
 text\_addres\_id = Entry(frame\_addres, width=40)  
 text\_addres\_id.grid(row=5, column=1)  
  
 label\_addres\_county = Label(frame\_addres, text=**'id страны:'**)  
 label\_addres\_county.grid(row=6, column=0)  
 text\_addres\_county = Entry(frame\_addres, width=40)  
 text\_addres\_county.grid(row=6, column=1)  
  
 label\_addres\_city = Label(frame\_addres, text=**'id города:'**)  
 label\_addres\_city.grid(row=7, column=0)  
 text\_addres\_city = Entry(frame\_addres, width=40)  
 text\_addres\_city.grid(row=7, column=1)  
  
 label\_addres\_street = Label(frame\_addres, text=**'id улицы:'**)  
 label\_addres\_street.grid(row=8, column=0)  
 text\_addres\_street = Entry(frame\_addres, width=40)  
 text\_addres\_street.grid(row=8, column=1)  
  
 label\_addres\_bilding = Label(frame\_addres, text=**'id здания:'**)  
 label\_addres\_bilding.grid(row=9, column=0)  
 text\_addres\_bilding = Entry(frame\_addres, width=40)  
 text\_addres\_bilding.grid(row=9, column=1)  
  
 btn = Button(frame\_addres, text=**'Добавить'**, command=insert\_addres)  
 btn.grid(row=10, column=0)  
  
 btnOutput = Button(frame\_addres, text=**'Вывести таблицу'**, command=output\_addres)  
 btnOutput.grid(row=10, column=1)  
  
 textOutputAddres = Text(frame\_addres, width=200, height=20, font=**'Consolas 10'**)  
 textOutputAddres.place(x=10, y=300)  
  
 window.mainloop()

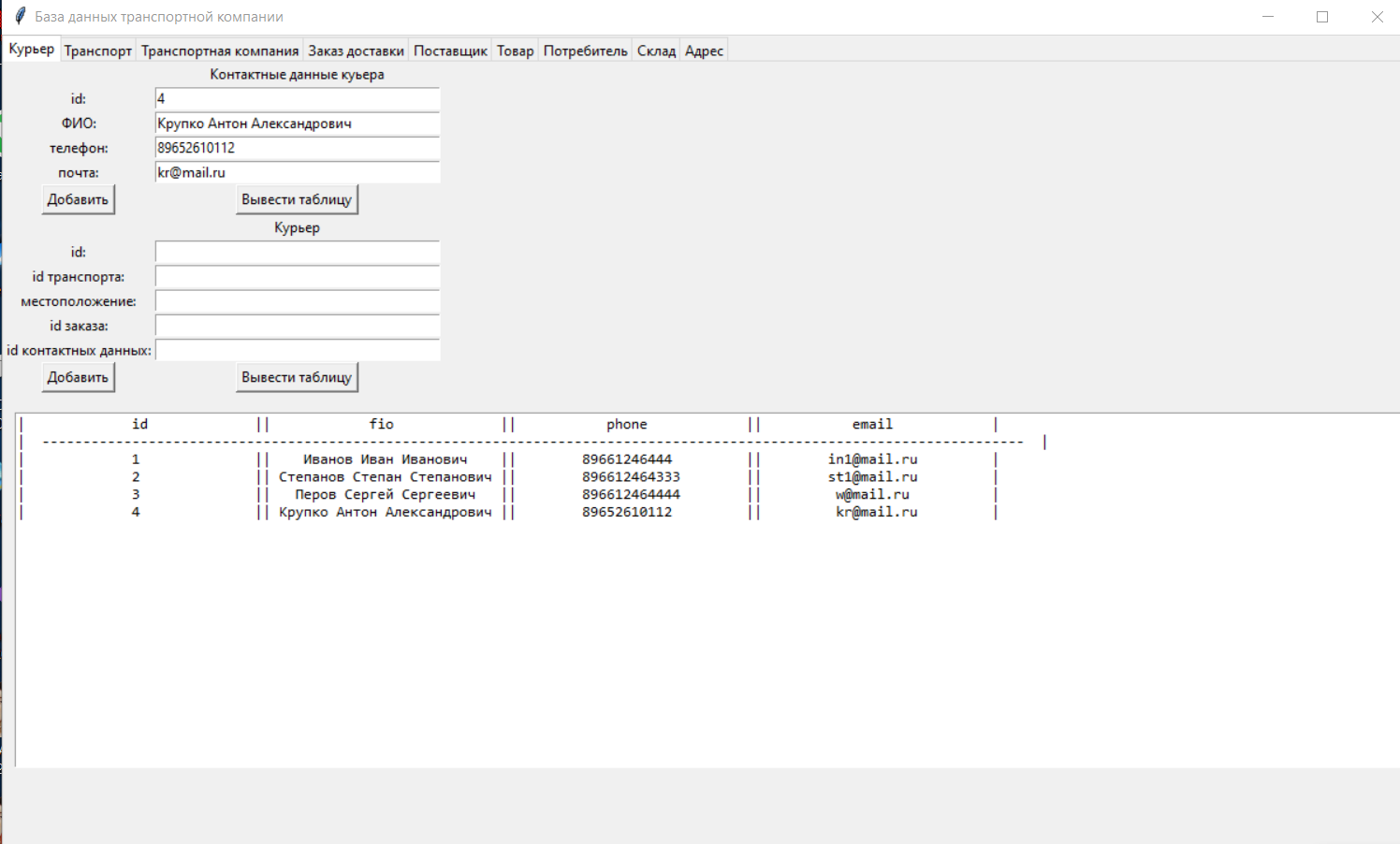
Результаты работы программы

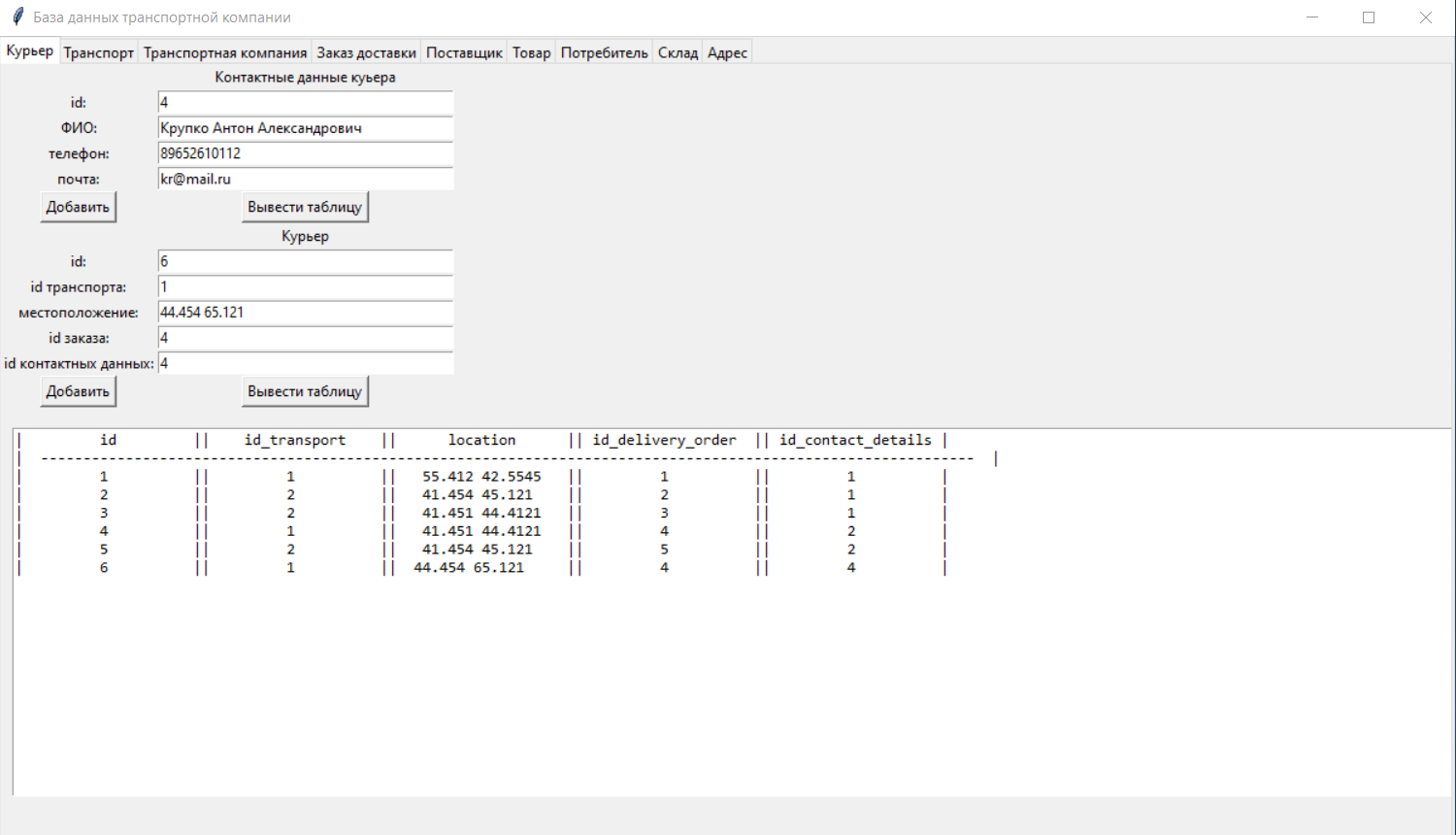
До добавления нового курьера



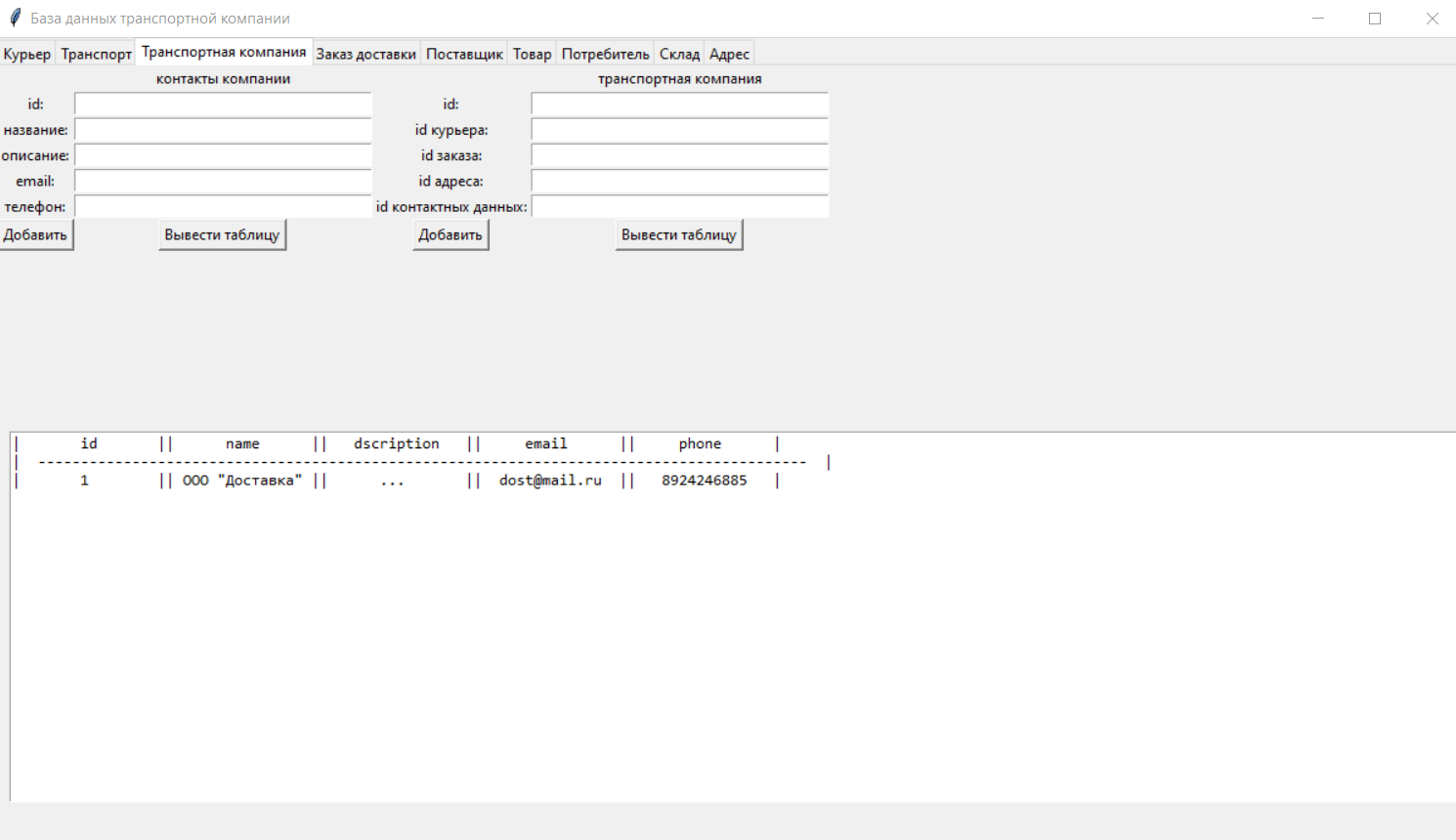


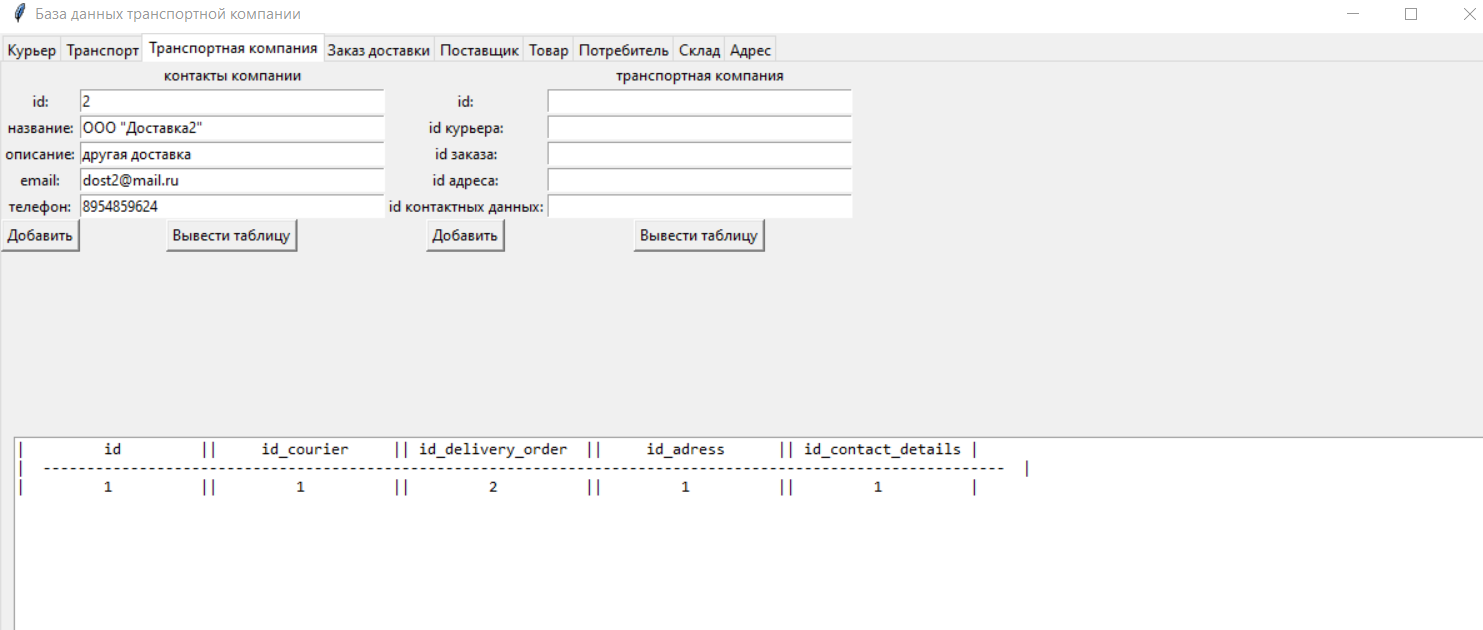
После добавления нового курьера



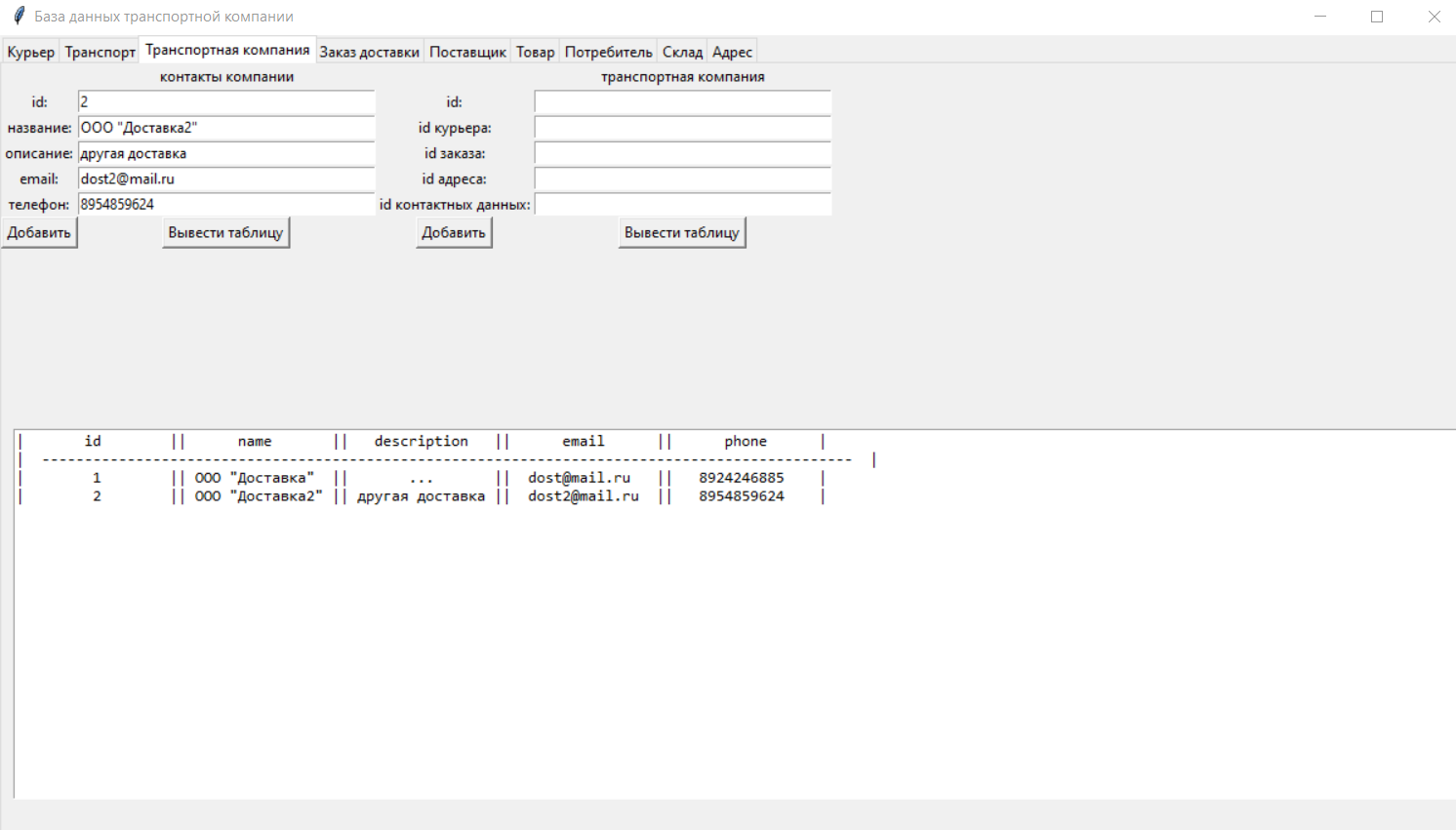


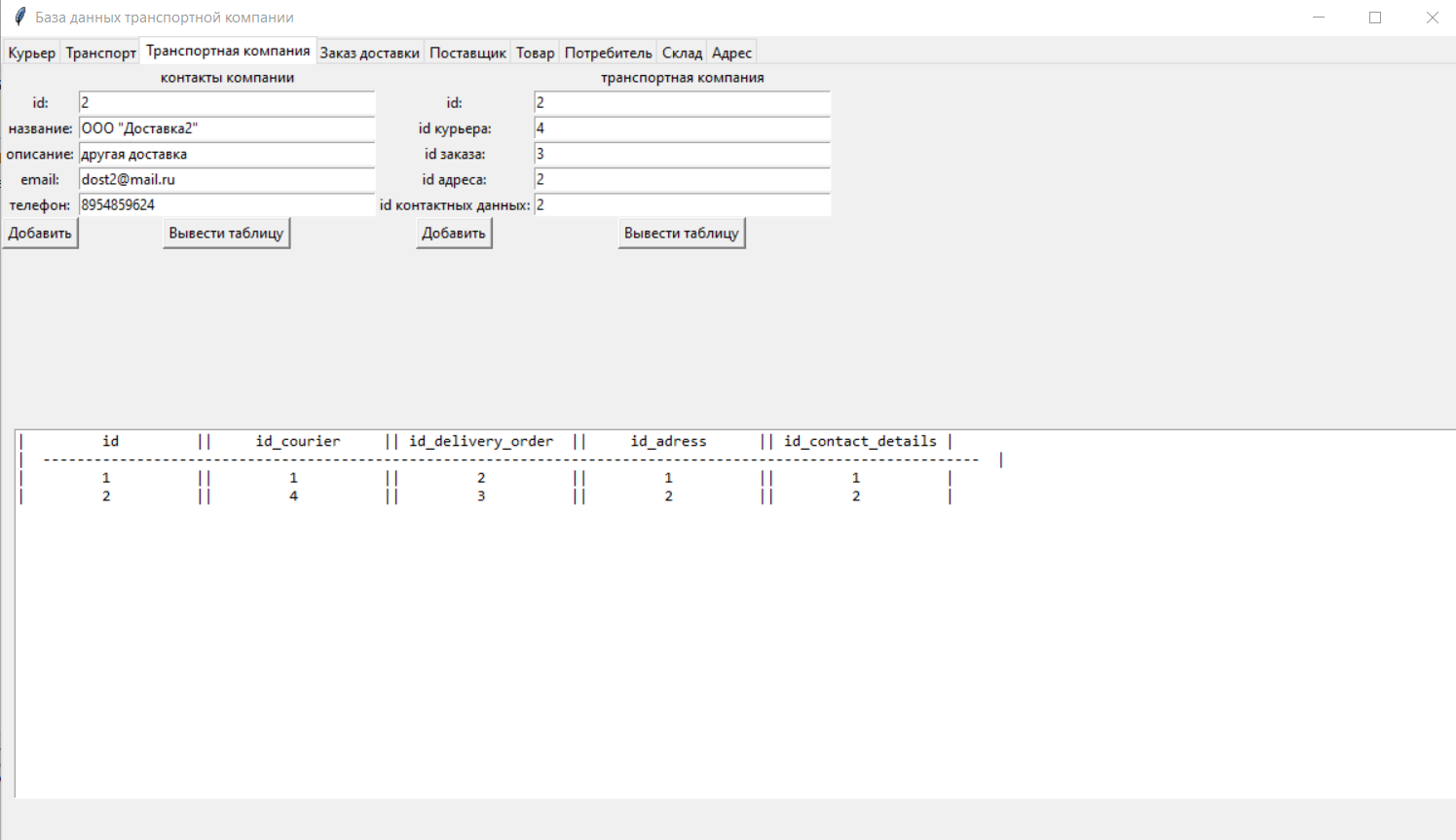
До добавления новой транспортной компании





После добавления новой транспортной компании





Вывод заказов доставки

