QUERY 1

```python
20    # if __name__ == '__main__':
21    #     create_connection(r"Part_3/ABC.sqlite")
22
23
24    def close_connection(conn):
25        conn.close
26        print("The connection with the database has been closed. ")
27
28    """
29    insert: define functions here
30    """
31
32    def select_questionOne(conn, other):
33        """
34        Query Sites by address
35        :param conn: the connection object
36        :param other: Address given in query
37        :return:
38        """
39        print("in question one")
40
41        cur=conn.cursor()
42
43        wrapped_other = ("%%"+other+"%%",)
44
45        cur.execute("SELECT * FROM Site WHERE address LIKE ?", wrapped_other)
46
47        records = cur.fetchall()
48
49
50        if((len(records)) != 0):
51            for row in records:
52                print(row)
53        else:
54            print ("No matching rows returned.")
55
56
57        close_connection(conn)
58
59    def select_questionTwo(conn, schedulerSystemInput):
60        """
61        Query DigitalDisplay, Specializes, TechnicalSupport by schedularSystem
62        :param conn: the connection object
63        :param schedularSystemInput: schedularSystem entered in query
64        :return:
65        """
```

PROBLEMS   TERMINAL   OUTPUT   DEBUG CONSOLE   powershell + ∨ ⊞ 🗑 ⋯ ∧

```
['./Part_3/ABC.py', '1', 'Garrett']
Connection Established 2.6.0
calling question one
in question one
(1, 'bar', '2891 Garrett Street', '374-347-8057')
The connection with the database has been closed.
PS C:\Users\jacqu\DatabaseProject359\Database-Project>
```

QUERY 2

```python
46
47          records = cur.fetchall()
48
49
50          if((len(records)) != 0):
51              for row in records:
52                  print(row)
53          else:
54              print ("No matching rows returned.")
55
56
57          close_connection(conn)
58
59      def select_questionTwo(conn, schedulerSystemInput):
60          """
61          Query DigitalDisplay, Specializes, TechnicalSupport by schedularSystem
62          :param conn: the connection object
63          :param schedularSystemInput: schedularSystem entered in query
64          :return:
65          """
66          cur=conn.cursor()
67          cur.execute("SELECT serialNo, DigitalDisplay.modelNo, name FROM DigitalDisplay, Spe
68          records = cur.fetchall()
69
70          if((len(records)) != 0):
71              for row in records:
72                  print(row)
73          else:
74              print ("No matching rows returned.")
75
76
77          close_connection(conn)
78
79      def select_questionThree(conn, other):
80          """
81          Query DigitalDisplay, Specializes, TechnicalSupport
82          :param conn: the connection object
83          :return:
84          """
85          cur=conn.cursor()
86          cur.execute("SELECT COUNT(name) AS cnt, name AS Name FROM Salesman WHERE (empId, na
87          counts = cur.fetchall()
88
89
```

```
PROBLEMS   TERMINAL   OUTPUT   DEBUG CONSOLE                              powershell

in question one
(1, 'bar', '2891 Garrett Street', '374-347-8057')
The connection with the database has been closed.
PS C:\Users\jacqu\DatabaseProject359\Database-Project> python ./Part_3/ABC.py 2 Virtue
['./Part_3/ABC.py', '2', 'Virtue']
Connection Established 2.6.0
('3', '3', 'Brynn Berniece')
('4', '4', 'Erik Tianna')
The connection with the database has been closed.
PS C:\Users\jacqu\DatabaseProject359\Database-Project>
```

QUERY 3

```python
75
76
77          close_connection(conn)
78
79      def select_questionThree(conn, other):
80          """
81          Query DigitalDisplay, Specializes, TechnicalSupport
82          :param conn: the connection object
83          :return:
84          """
85          cur=conn.cursor()
86          cur.execute("SELECT COUNT(name) AS cnt, name AS Name FROM Salesman WHERE (empId, na
87          counts = cur.fetchall()
88
89
90          print("Name          cnt")
91          print("--------------")
92
93          if((len(counts)) != 0):
94              for row in counts:
95                  if(row[0] == 1):
96                      print(row[1].ljust(10) , row[0])
97                  else:
98                      cur.execute("SELECT empId, name, gender FROM Salesman WHERE name = ?",
99                      dupes = cur.fetchall()
100                     dupe_string = ""
101                     for dupe in dupes:
102                         dupe_string += ",(" + str(dupe[0]) + "," + dupe[1] + ",'" + dupe[2]
103                     print(row[1].ljust(10), row[0], dupe_string[1:])
104
105         else:
106             print ("Empty Table.")
107
108
109         close_connection(conn)
110
111
112     def select_questionFour(conn, phone):
113         """
114         Query clientId, name, phone, address
115         :param conn: phone ext '-####'
116         :return:
```

```
PS C:\Users\jacqu\DatabaseProject359\Database-Project> python ./Part_3/ABC.py 3
['./Part_3/ABC.py', '3']
Connection Established 2.6.0
--------------
Chanelle Piker 1
Gypsy Smith 1
Johnnie Lee 1
Johnnie Perez 2 (3,Johnnie Perez,'M'),(7,Johnnie Perez,'M')
Margery Manson 1
Willie Hubbard 1
The connection with the database has been closed.
PS C:\Users\jacqu\DatabaseProject359\Database-Project> python ./Part_3/ABC.py 4 646-908-5539
```

QUERY 4

```python
                    for dupe in dupes:
                        dupe_string += ",(" + str(dupe[0]) + "," + dupe[1] + ",'" + dupe[2]
                    print(row[1].ljust(10), row[0], dupe_string[1:])

        else:
            print ("Empty Table.")


        close_connection(conn)


    def select_questionFour(conn, phone):
        """
        Query clientId, name, phone, address
        :param conn: phone ext '-####'
        :return:
        """

        cur=conn.cursor()
        cur.execute("SELECT clientId, name, phone, address FROM Client WHERE phone =?", (ph
        records = cur.fetchall()

        if((len(records)) != 0):
            for row in records:
                print(row)

        else:
            print("Empty Table.")

        close_connection(conn)

    def select_questionFive(conn, other):
        """
        Query empID, name, hours
        :param conn: the connection object
        :return:
        """

        cur=conn.cursor()
        cur.execute("SELECT a.empID, a.name, hours FROM Administrator a JOIN AdmWorkHours b
        records = cur.fetchall()

        if((len(records)) != 0):
```

```
Johnnie Perez 2 (3,Johnnie Perez,'M'),(7,Johnnie Perez,'M')
Margery Manson 1
Willie Hubbard 1
The connection with the database has been closed.
PS C:\Users\jacqu\DatabaseProject359\Database-Project> python ./Part_3/ABC.py 4 646-908-5539
['./Part_3/ABC.py', '4', '646-908-5539']
Connection Established 2.6.0
(1, 'Caleb Anabella', '646-908-5539', '1232 W Mud River Rd')
The connection with the database has been closed.
PS C:\Users\jacqu\DatabaseProject359\Database-Project> []
```

QUERY 5

```python
114        Query clientId, name, phone, address
115        :param conn: phone ext '-####'
116        :return:
117        """
118
119        cur=conn.cursor()
120        cur.execute("SELECT clientId, name, phone, address FROM Client WHERE phone =?", (ph
121        records = cur.fetchall()
122
123        if((len(records)) != 0):
124            for row in records:
125                print(row)
126
127        else:
128            print("Empty Table.")
129
130        close_connection(conn)
131
132    def select_questionFive(conn, other):
133        """
134        Query empID, name, hours
135        :param conn: the connection object
136        :return:
137        """
138
139        cur=conn.cursor()
140        cur.execute("SELECT a.empID, a.name, hours FROM Administrator a JOIN AdmWorkHours b
141        records = cur.fetchall()
142
143        if((len(records)) != 0):
144            for row in records:
145                print(row)
146
147        else:
148            print("Empty Table.")
149
150            close_connection(conn)
151
152    def select_questionSix(conn, modelNo):
153        """
154        Query name
155        :param conn: modelNo
156        :return:
```

QUERY 6

```python
140        cur.execute("SELECT a.empID, a.name, hours FROM Administrator a JOIN AdminWorkHours b
141        records = cur.fetchall()
142
143        if((len(records)) != 0):
144            for row in records:
145                print(row)
146
147        else:
148            print("Empty Table.")
149
150            close_connection(conn)
151
152    def select_questionSix(conn, modelNo):
153        """
154        Query name
155        :param conn: modelNo
156        :return:
157        """
158
159        cur=conn.cursor()
160        cur.execute("SELECT name FROM TechnicalSupport t JOIN Specializes s ON t.empId = s.
161        records = cur.fetchall()
162
163        if((len(records)) != 0):
164            for row in records:
165                print(row)
166        else:
167            print("Empty Table");
168
169            close_connection(conn)
170
171
172
173    #For number Seven
174
175    def select_questionSeven(conn, other):
176
177        cur=conn.cursor()
178        cur.execute("SELECT Salesman.name, AVG(Purchases.commissionRate) AS avg_commission
179        records = cur.fetchall()
180
181        if((len(records)) != 0):
182            for row in records:
```

```
['./Part_3/ABC.py', '5']
Connection Established 2.6.0
(5, 'Curtis Taylor', 5)
(1, 'Alex Carden ', 8)
(2, 'Alden Sanchez', 8)
(3, 'Randell Johnson', 8)
(4, 'Oakley  Peterson', 8)
PS C:\Users\jacqu\DatabaseProject359\Database-Project> python ./Part_3/ABC.py 6 1
['./Part_3/ABC.py', '6', '1']
Connection Established 2.6.0
('Rainbow Nick',)
PS C:\Users\jacqu\DatabaseProject359\Database-Project>
```

QUERY 7

```
162
163         if((len(records)) != 0):
164             for row in records:
165                 print(row)
166         else:
167             print("Empty Table");
168
169             close_connection(conn)
170
171
172
173     #For number Seven
174
175     def select_questionSeven(conn, other):
176
177         cur=conn.cursor()
178         cur.execute("SELECT Salesman.name, AVG(Purchases.commissionRate) AS avg_commission
179         records = cur.fetchall()
180
181         if((len(records)) != 0):
182             for row in records:
183                 print(row)
184
185         else:
186             print ("Empty Table.")
187
188
189         close_connection(conn)
190
191
192     #For number eight
193
194     def select_questionEight(conn, other):
195
196         cur=conn.cursor()
197         cur.execute("SELECT 'Administrator' AS Role, COUNT(*) AS cnt FROM administrator UNI
198         records = cur.fetchall()
199
200         if((len(records)) != 0):
201             for row in records:
202                 print(row)
203
```

PROBLEMS   TERMINAL   OUTPUT   DEBUG CONSOLE   > powershell

```
Connection Established 2.6.0
('Rainbow Nick',)
PS C:\Users\jacqu\DatabaseProject359\Database-Project> python ./Part_3/ABC.py 7
['./Part_3/ABC.py', '7']
Connection Established 2.6.0
('Willie Hubbard', 0.5)
('Margery Manson', 0.5)
('Johnnie Perez', 0.5)
('Gypsy Smith', 0.5)
('Chanelle Piker', 0.5)
The connection with the database has been closed.
PS C:\Users\jacqu\DatabaseProject359\Database-Project>
```

QUERY 8

```
191
192
193     #For number eight
194
195     def select_questionEight(conn, other):
196
197         cur=conn.cursor()
198         cur.execute("SELECT 'Administrator' AS Role, COUNT(*) AS cnt FROM administrator UNI
199         records = cur.fetchall()
200         print("Name        cnt")
201         print("-------------")
202
203         if((len(records)) != 0):
204             for row in records:
205                 print(row)
206
207         else:
208             print ("Empty Table.")
209
210
211         close_connection(conn)
212
213
214
215
216     def main(question_num, other):
```

```
PROBLEMS    TERMINAL    OUTPUT    DEBUG CONSOLE                          > powershell  + ∨  ⊞  🗑  ⋯  ∧  ✕

('Technicians', 5)
The connection with the database has been closed.
PS C:\Users\jacqu\DatabaseProject359\Database-Project> python ./Part_3/ABC.py 8
['./Part_3/ABC.py', '8']
Connection Established 2.6.0
Name        cnt
--------------
('Administrator', 5)
('Salesmen', 7)
('Technicians', 5)
The connection with the database has been closed.
PS C:\Users\jacqu\DatabaseProject359\Database-Project> []
```