Coding challenge-3

Hospital Management System

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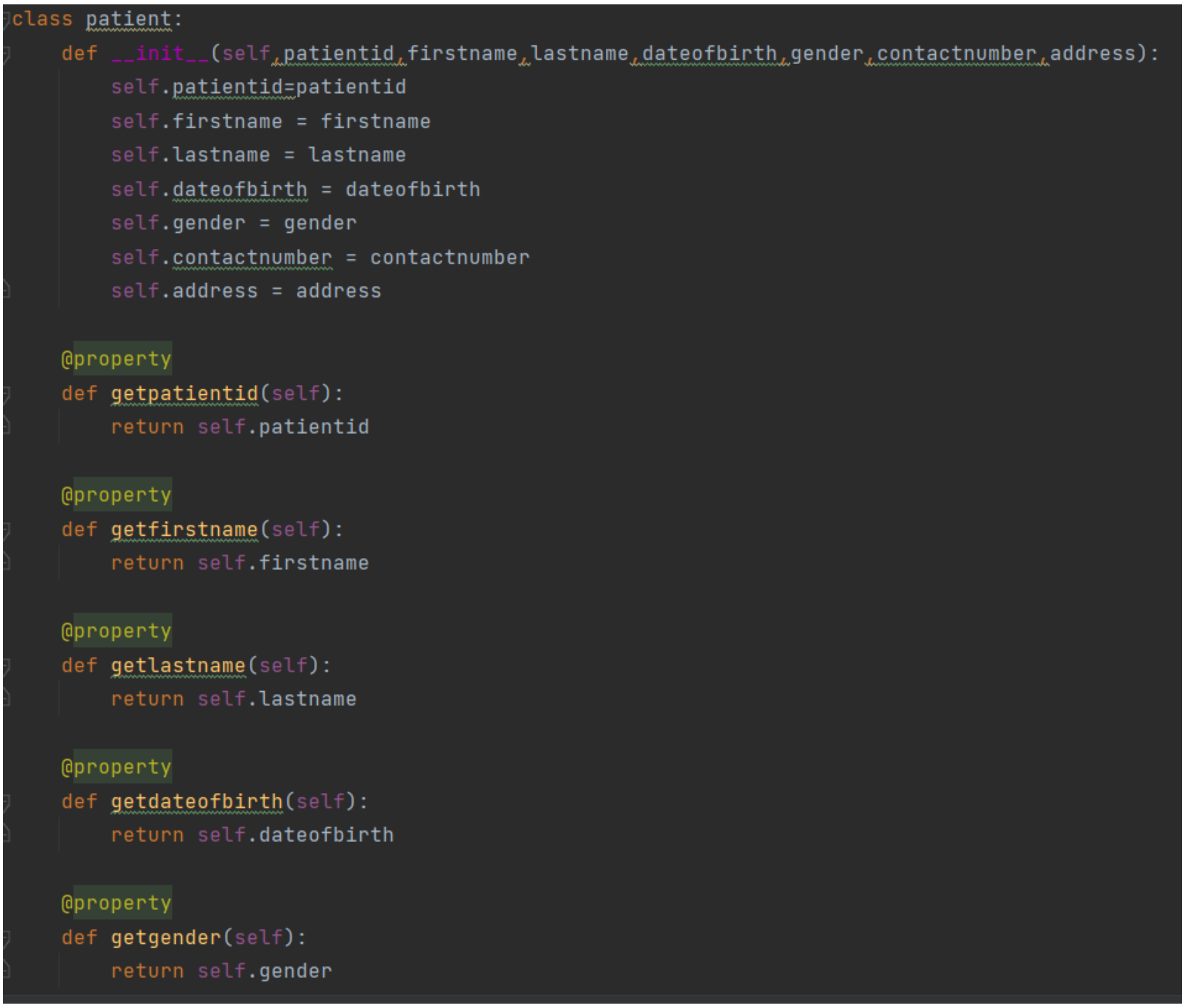
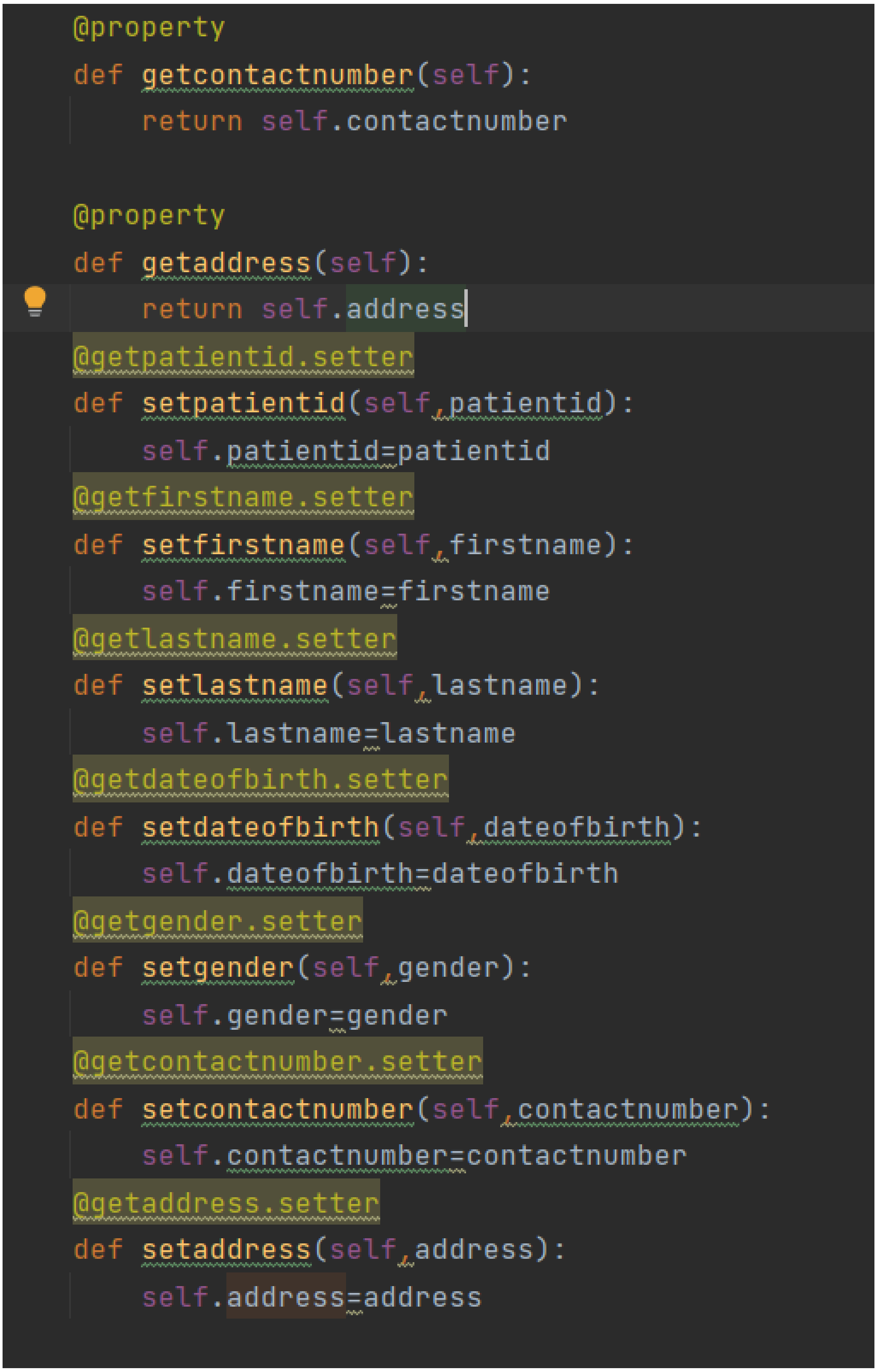
Patient class:

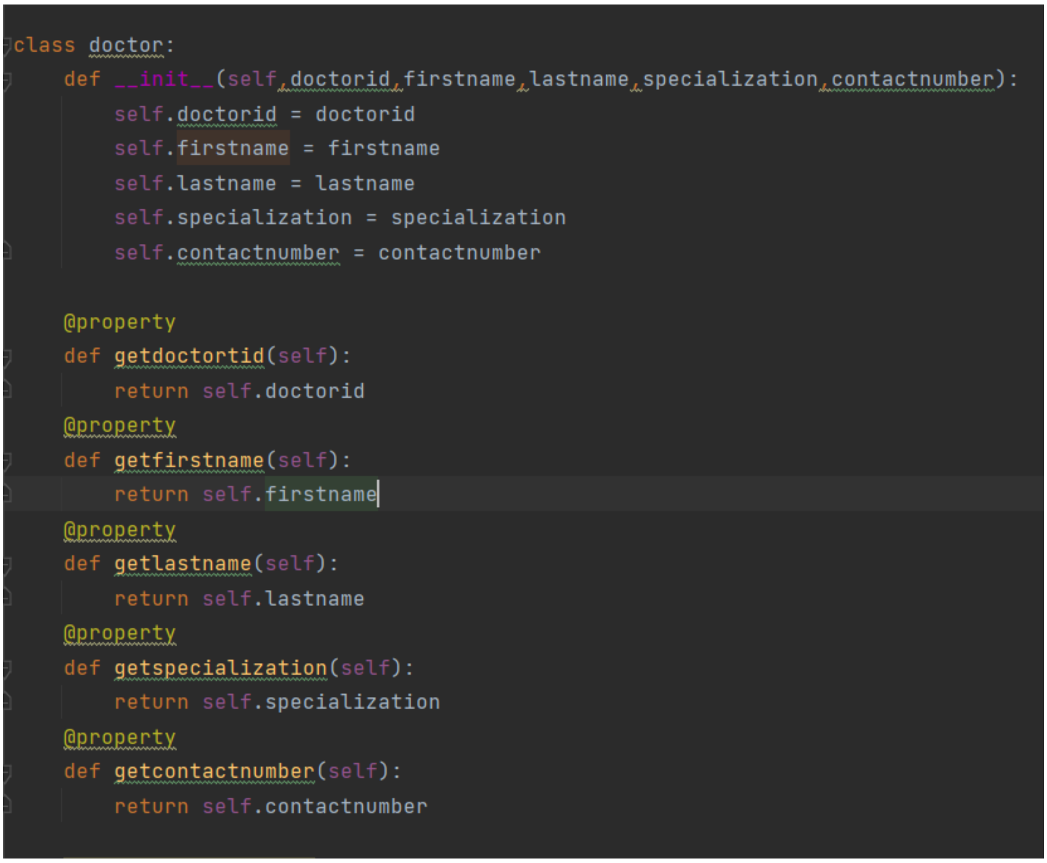


```
class patient:
    def __init__(self,patientid,firstname,lastname,dateofbirth,gender,contactnumber,address):
        self.patientid=patientid
        self.firstname = firstname
        self.lastname = lastname
        self.dateofbirth = dateofbirth
        self.gender = gender
        self.contactnumber = contactnumber
        self.address = address

    @property
    def getpatientid(self):
        return self.patientid

    @property
    def getfirstname(self):
        return self.firstname

    @property
    def getlastname(self):
        return self.lastname

    @property
    def getdateofbirth(self):
        return self.dateofbirth

    @property
    def getgender(self):
        return self.gender
```

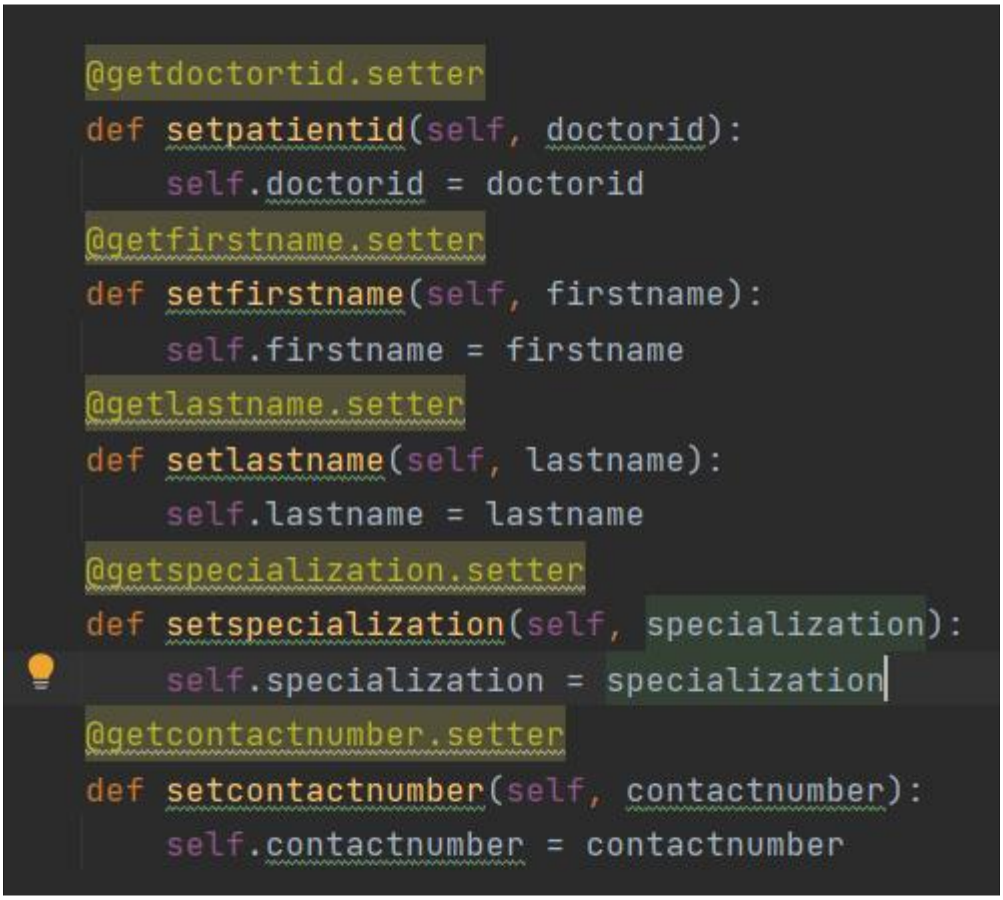


```python
    @property
    def getcontactnumber(self):
        return self.contactnumber

    @property
    def getaddress(self):
        return self.address
    @getpatientid.setter
    def setpatientid(self,patientid):
        self.patientid=patientid
    @getfirstname.setter
    def setfirstname(self,firstname):
        self.firstname=firstname
    @getlastname.setter
    def setlastname(self,lastname):
        self.lastname=lastname
    @getdateofbirth.setter
    def setdateofbirth(self,dateofbirth):
        self.dateofbirth=dateofbirth
    @getgender.setter
    def setgender(self,gender):
        self.gender=gender
    @getcontactnumber.setter
    def setcontactnumber(self,contactnumber):
        self.contactnumber=contactnumber
    @getaddress.setter
    def setaddress(self,address):
        self.address=address
```

Doctor class:

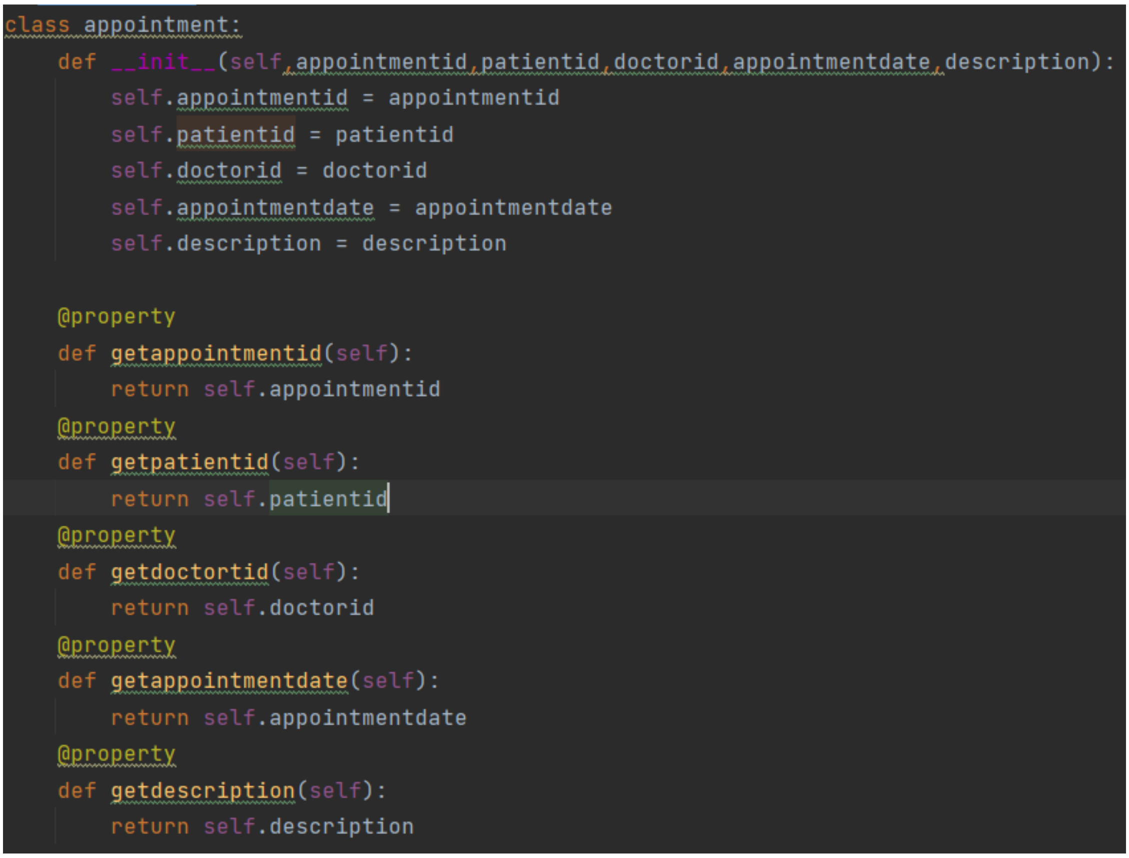


```python
class doctor:
    def __init__(self,doctorid,firstname,lastname,specialization,contactnumber):
        self.doctorid = doctorid
        self.firstname = firstname
        self.lastname = lastname
        self.specialization = specialization
        self.contactnumber = contactnumber

    @property
    def getdoctortid(self):
        return self.doctorid
    @property
    def getfirstname(self):
        return self.firstname
    @property
    def getlastname(self):
        return self.lastname
    @property
    def getspecialization(self):
        return self.specialization
    @property
    def getcontactnumber(self):
        return self.contactnumber
```

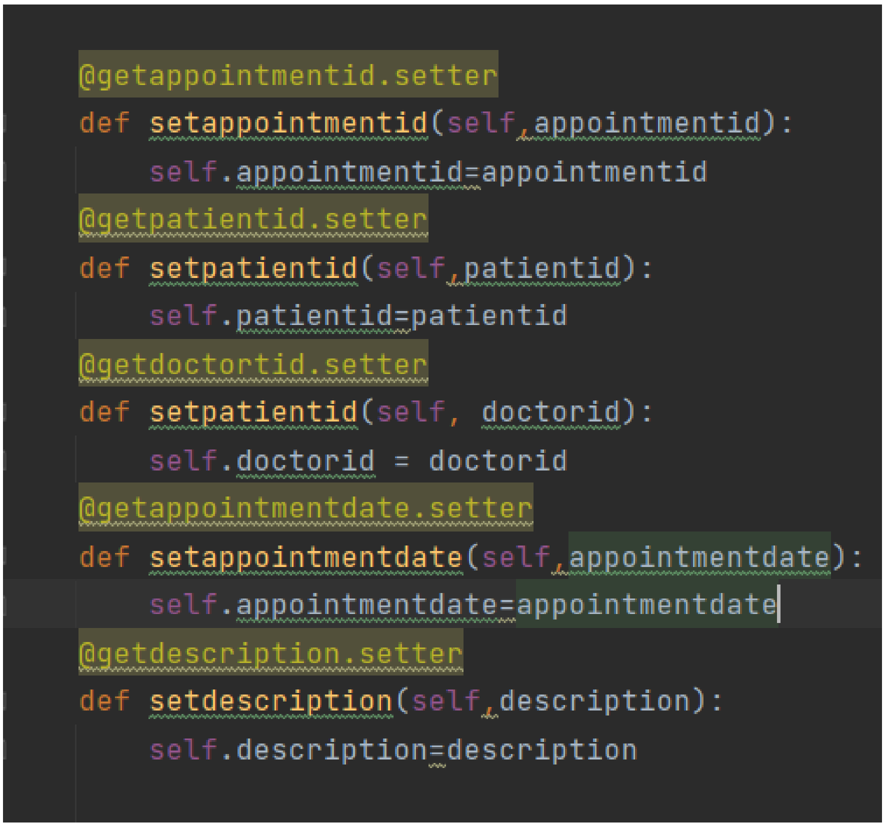


```python
    @getdoctortid.setter
    def setpatientid(self, doctorid):
        self.doctorid = doctorid
    @getfirstname.setter
    def setfirstname(self, firstname):
        self.firstname = firstname
    @getlastname.setter
    def setlastname(self, lastname):
        self.lastname = lastname
    @getspecialization.setter
    def setspecialization(self, specialization):
        self.specialization = specialization
    @getcontactnumber.setter
    def setcontactnumber(self, contactnumber):
        self.contactnumber = contactnumber
```

Appointment class:

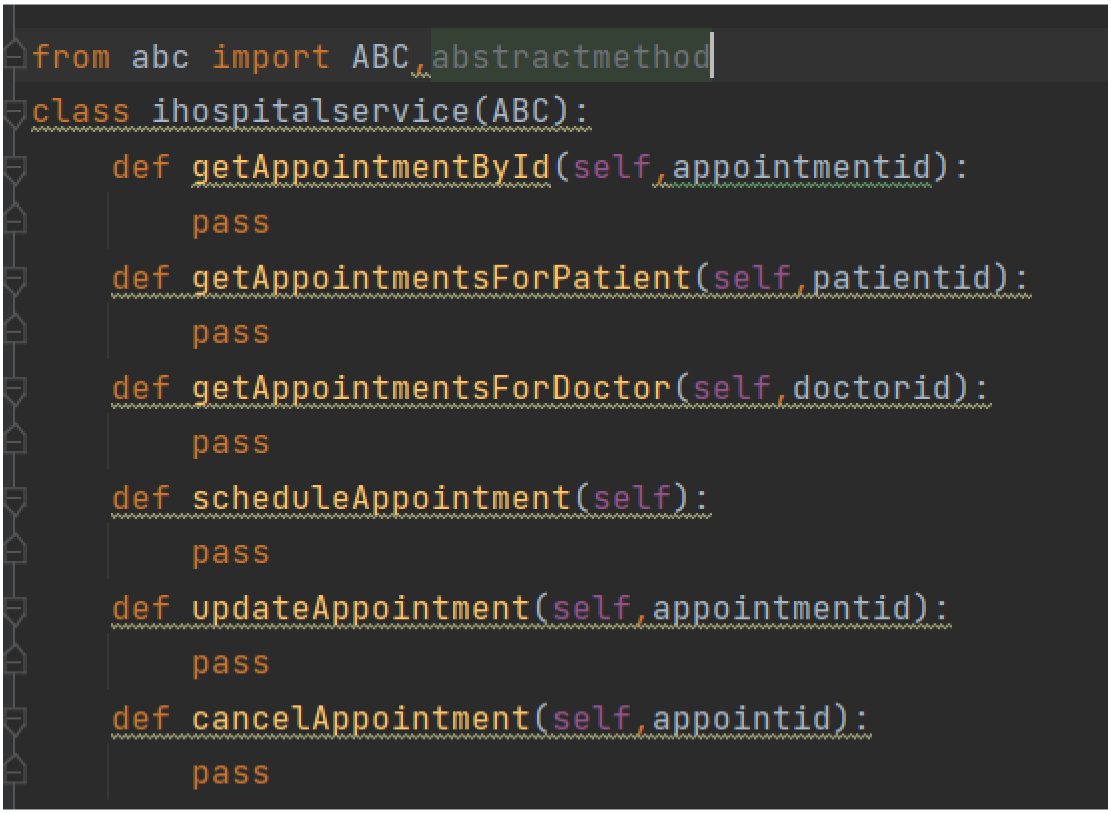


```
class appointment:
    def __init__(self,appointmentid,patientid,doctorid,appointmentdate,description):
        self.appointmentid = appointmentid
        self.patientid = patientid
        self.doctorid = doctorid
        self.appointmentdate = appointmentdate
        self.description = description

    @property
    def getappointmentid(self):
        return self.appointmentid
    @property
    def getpatientid(self):
        return self.patientid
    @property
    def getdoctortid(self):
        return self.doctorid
    @property
    def getappointmentdate(self):
        return self.appointmentdate
    @property
    def getdescription(self):
        return self.description
```



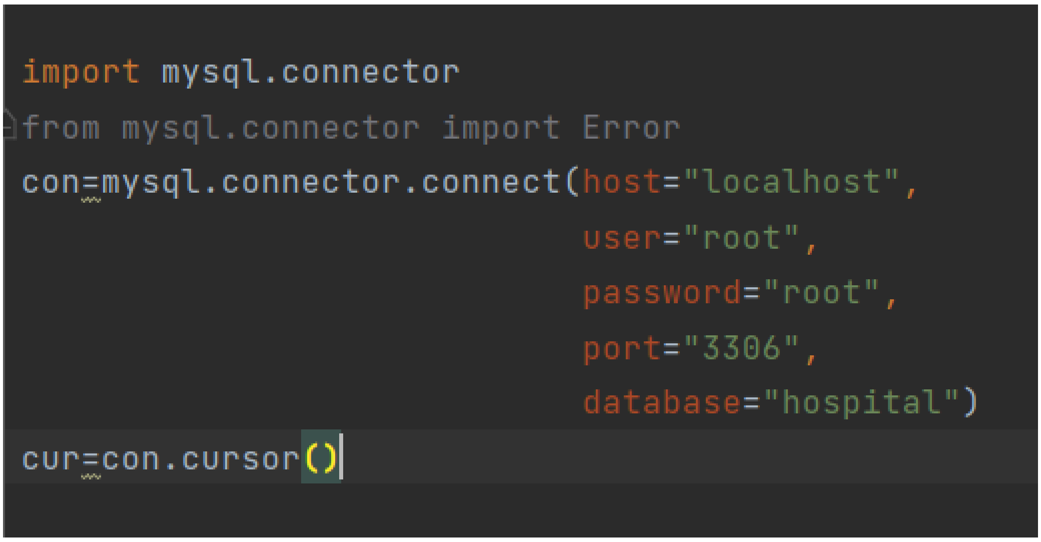
```
    @getappointmentid.setter
    def setappointmentid(self,appointmentid):
        self.appointmentid=appointmentid
    @getpatientid.setter
    def setpatientid(self,patientid):
        self.patientid=patientid
    @getdoctortid.setter
    def setpatientid(self, doctorid):
        self.doctorid = doctorid
    @getappointmentdate.setter
    def setappointmentdate(self,appointmentdate):
        self.appointmentdate=appointmentdate
    @getdescription.setter
    def setdescription(self,description):
        self.description=description
```

Abstract method:



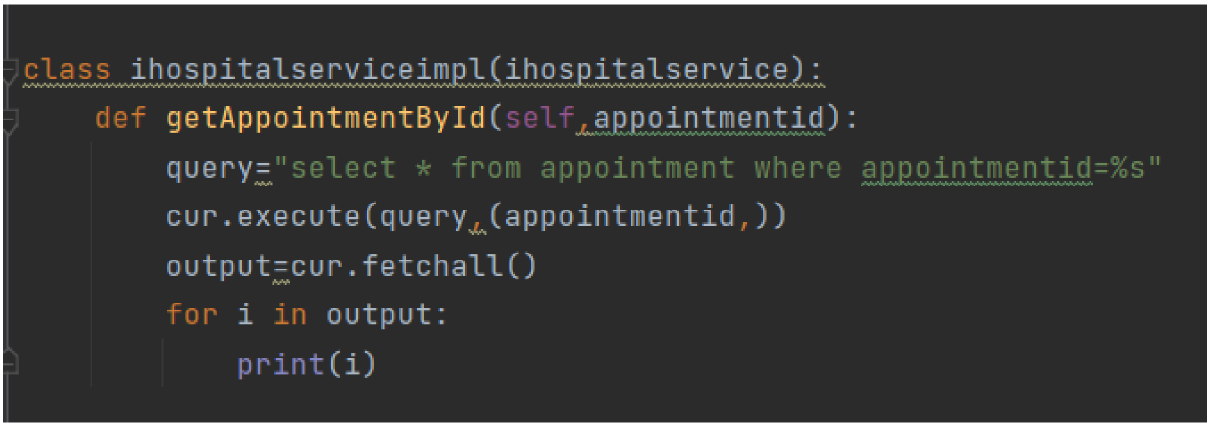
```
from abc import ABC,abstractmethod
class ihospitalservice(ABC):
    def getAppointmentById(self,appointmentid):
        pass
    def getAppointmentsForPatient(self,patientid):
        pass
    def getAppointmentsForDoctor(self,doctorid):
        pass
    def scheduleAppointment(self):
        pass
    def updateAppointment(self,appointmentid):
        pass
    def cancelAppointment(self,appointid):
        pass
```

Database connection:



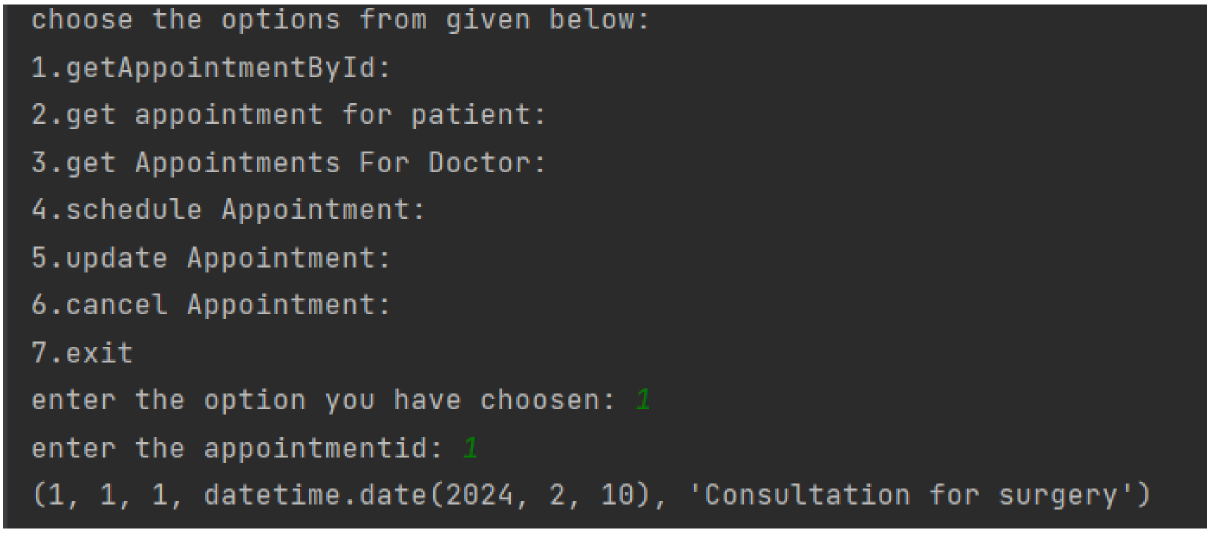
```
import mysql.connector
from mysql.connector import Error
con=mysql.connector.connect(host="localhost",
                            user="root",
                            password="root",
                            port="3306",
                            database="hospital")
cur=con.cursor()
```

Implementation:



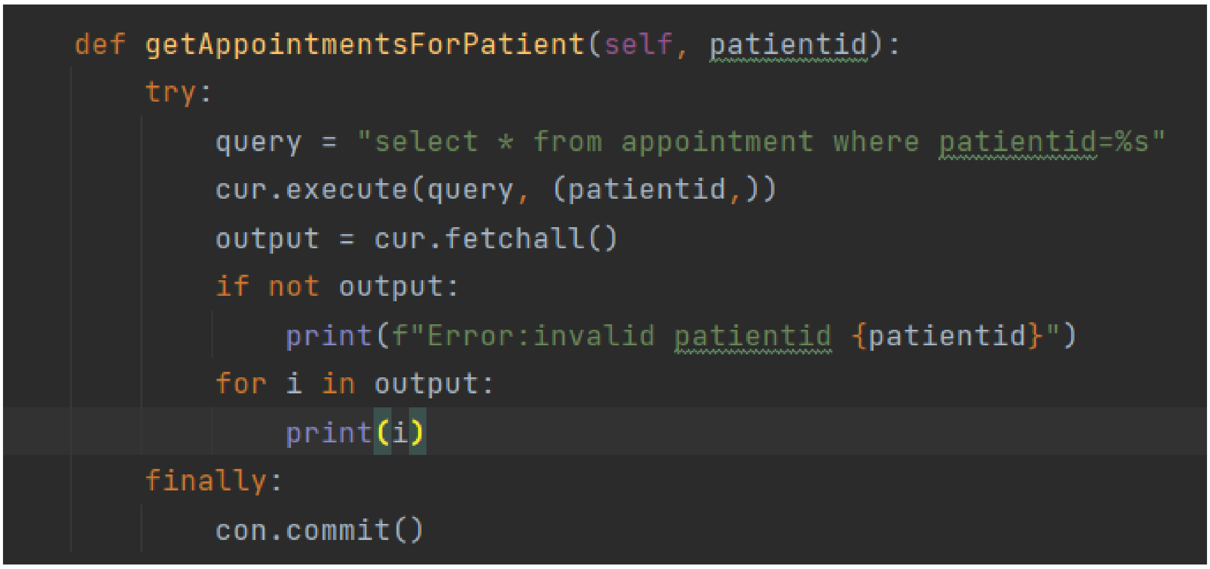
```
class ihospitalserviceimpl(ihospitalservice):
    def getAppointmentById(self,appointmentid):
        query="select * from appointment where appointmentid=%s"
        cur.execute(query,(appointmentid,))
        output=cur.fetchall()
        for i in output:
            print(i)
```

Output:



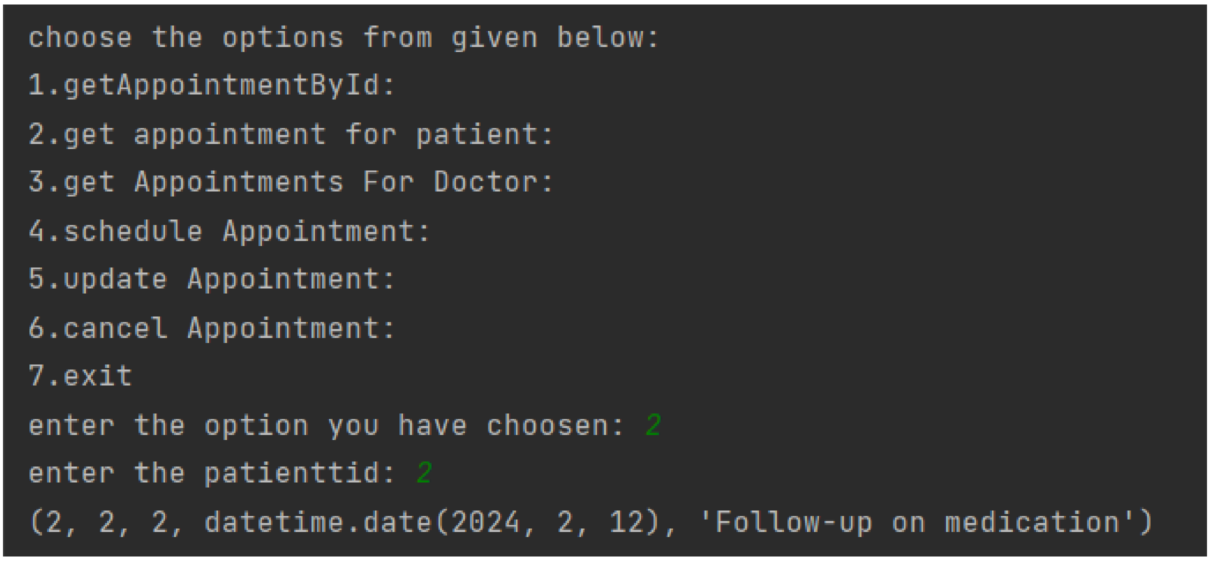
```
choose the options from given below:
1.getAppointmentById:
2.get appointment for patient:
3.get Appointments For Doctor:
4.schedule Appointment:
5.update Appointment:
6.cancel Appointment:
7.exit
enter the option you have choosen: 1
enter the appointmentid: 1
(1, 1, 1, datetime.date(2024, 2, 10), 'Consultation for surgery')
```

Get Appointment for patient:



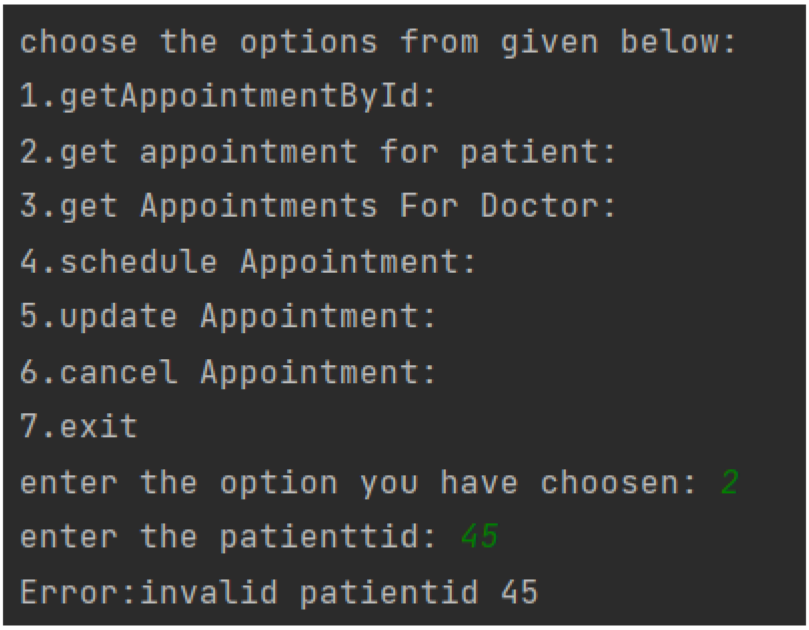
```
    def getAppointmentsForPatient(self, patientid):
        try:
            query = "select * from appointment where patientid=%s"
            cur.execute(query, (patientid,))
            output = cur.fetchall()
            if not output:
                print(f"Error:invalid patientid {patientid}")
            for i in output:
                print(i)
        finally:
            con.commit()
```

Output:



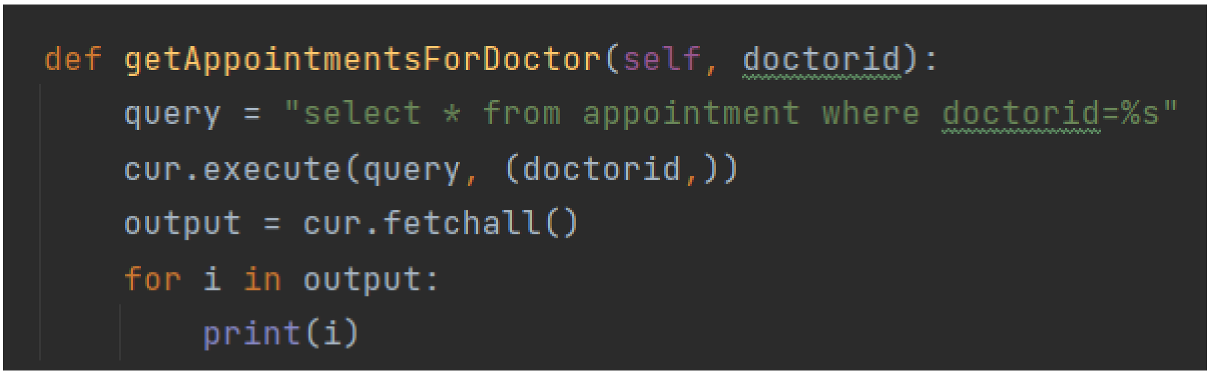
```
choose the options from given below:
1.getAppointmentById:
2.get appointment for patient:
3.get Appointments For Doctor:
4.schedule Appointment:
5.update Appointment:
6.cancel Appointment:
7.exit
enter the option you have choosen: 2
enter the patienttid: 2
(2, 2, 2, datetime.date(2024, 2, 12), 'Follow-up on medication')
```

Exception:



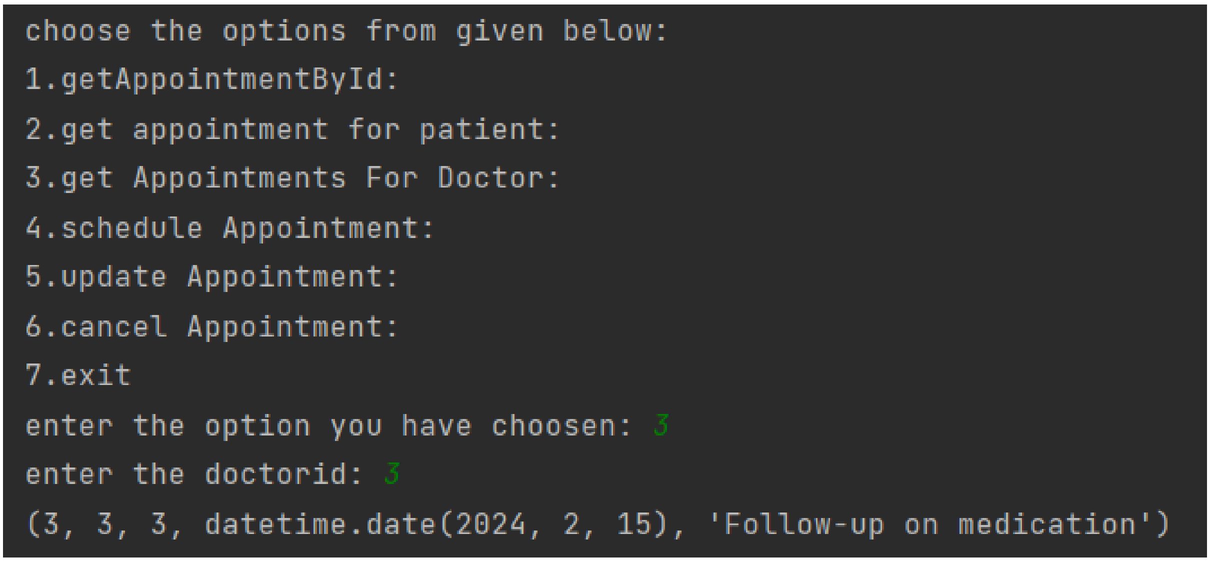
```
choose the options from given below:
1.getAppointmentById:
2.get appointment for patient:
3.get Appointments For Doctor:
4.schedule Appointment:
5.update Appointment:
6.cancel Appointment:
7.exit
enter the option you have choosen: 2
enter the patienttid: 45
Error:invalid patientid 45
```

Get appointment for doctor:



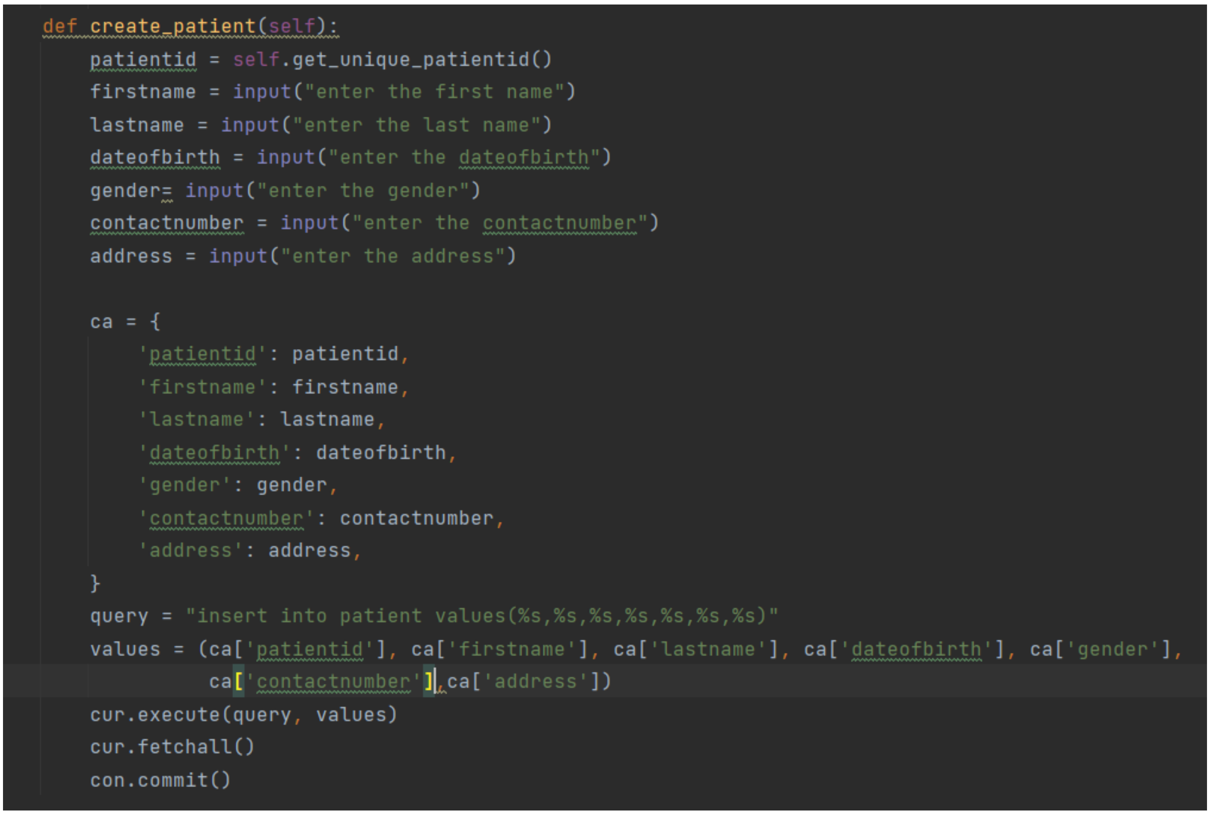
```
def getAppointmentsForDoctor(self, doctorid):
    query = "select * from appointment where doctorid=%s"
    cur.execute(query, (doctorid,))
    output = cur.fetchall()
    for i in output:
        print(i)
```

Output:

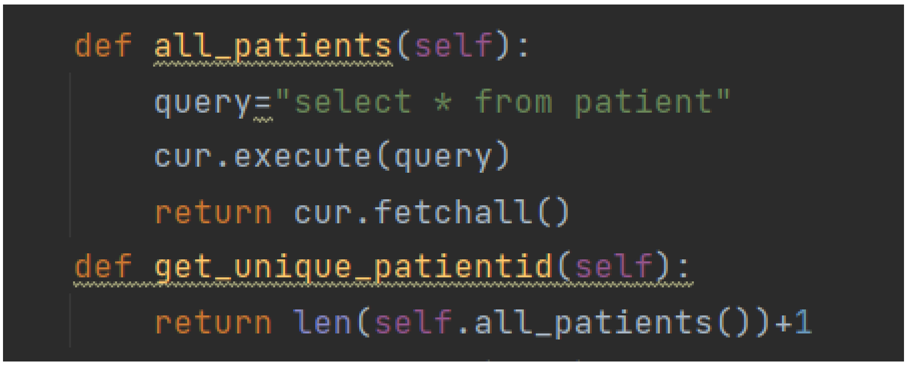


```
choose the options from given below:
1.getAppointmentById:
2.get appointment for patient:
3.get Appointments For Doctor:
4.schedule Appointment:
5.update Appointment:
6.cancel Appointment:
7.exit
enter the option you have choosen: 3
enter the doctorid: 3
(3, 3, 3, datetime.date(2024, 2, 15), 'Follow-up on medication')
```

Create patient:

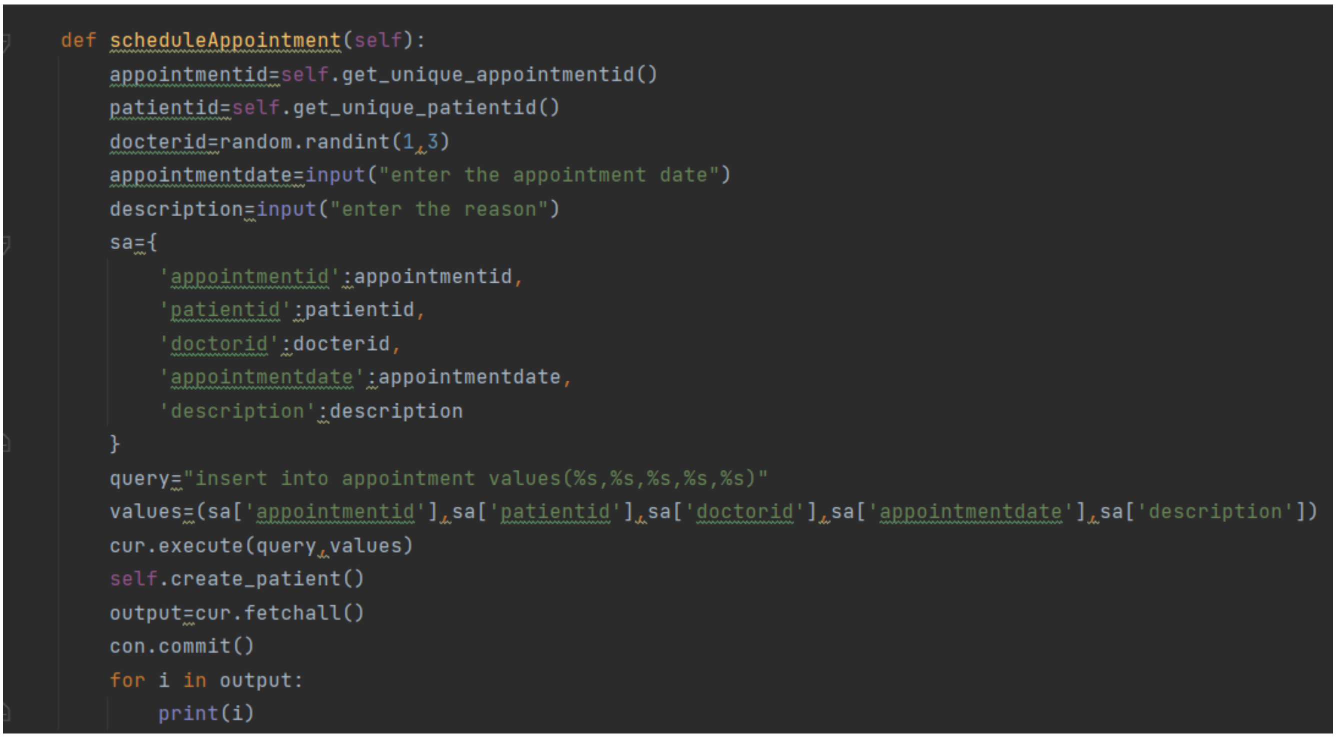


```python
def create_patient(self):
    patientid = self.get_unique_patientid()
    firstname = input("enter the first name")
    lastname = input("enter the last name")
    dateofbirth = input("enter the dateofbirth")
    gender= input("enter the gender")
    contactnumber = input("enter the contactnumber")
    address = input("enter the address")

    ca = {
        'patientid': patientid,
        'firstname': firstname,
        'lastname': lastname,
        'dateofbirth': dateofbirth,
        'gender': gender,
        'contactnumber': contactnumber,
        'address': address,
    }
    query = "insert into patient values(%s,%s,%s,%s,%s,%s,%s)"
    values = (ca['patientid'], ca['firstname'], ca['lastname'], ca['dateofbirth'], ca['gender'],
              ca['contactnumber'],ca['address'])
    cur.execute(query, values)
    cur.fetchall()
    con.commit()
```

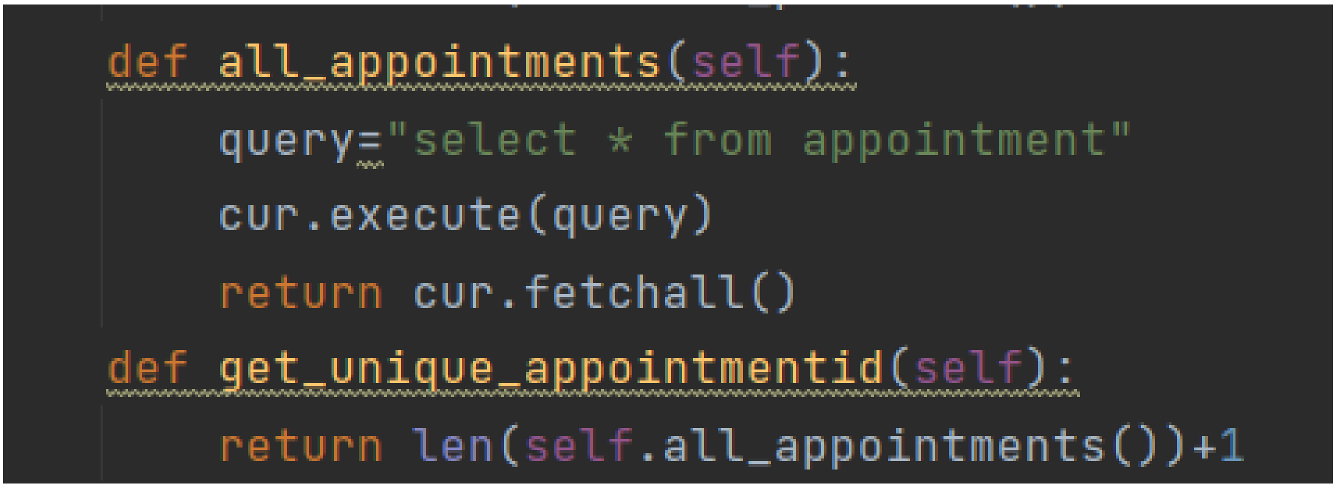


```python
def all_patients(self):
    query="select * from patient"
    cur.execute(query)
    return cur.fetchall()
def get_unique_patientid(self):
    return len(self.all_patients())+1
```

Schedule appointment:

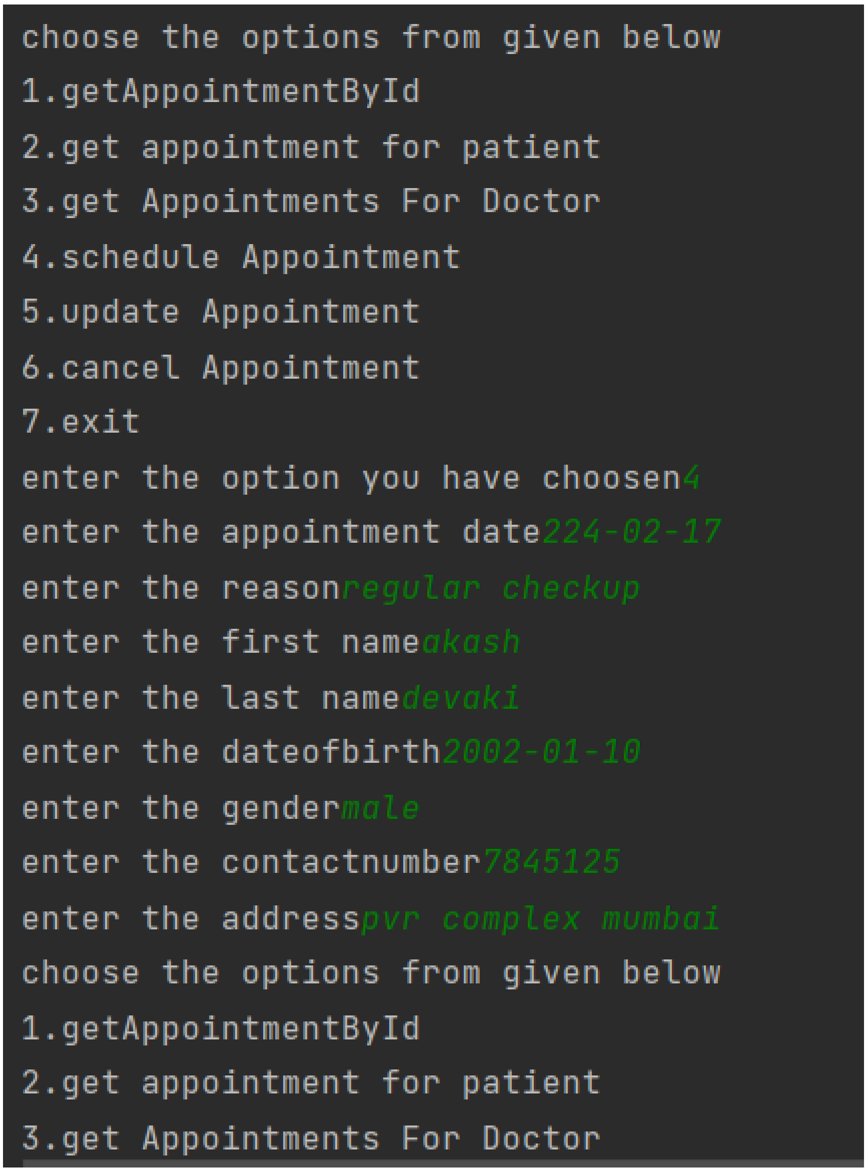


```
    def scheduleAppointment(self):
        appointmentid=self.get_unique_appointmentid()
        patientid=self.get_unique_patientid()
        docterid=random.randint(1,3)
        appointmentdate=input("enter the appointment date")
        description=input("enter the reason")
        sa={
            'appointmentid':appointmentid,
            'patientid':patientid,
            'doctorid':docterid,
            'appointmentdate':appointmentdate,
            'description':description
        }
        query="insert into appointment values(%s,%s,%s,%s,%s)"
        values=(sa['appointmentid'],sa['patientid'],sa['doctorid'],sa['appointmentdate'],sa['description'])
        cur.execute(query,values)
        self.create_patient()
        output=cur.fetchall()
        con.commit()
        for i in output:
            print(i)
```



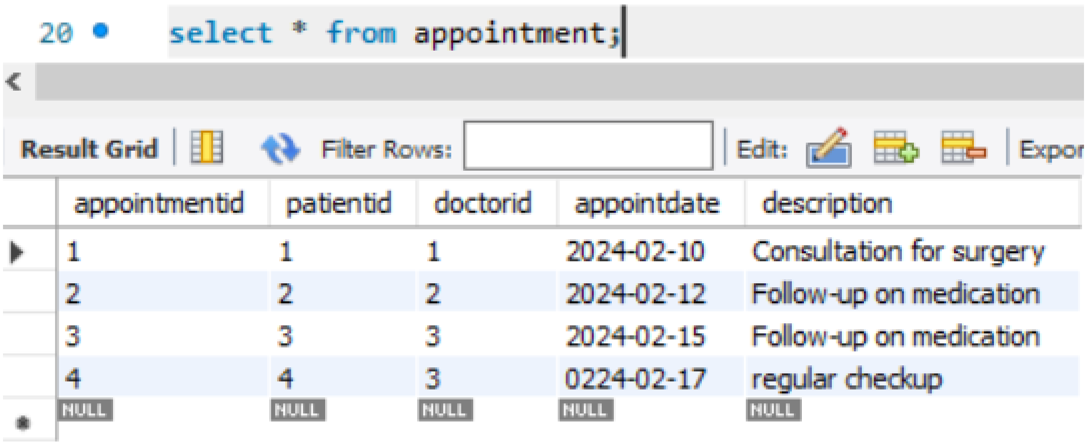
```
    def all_appointments(self):
        query="select * from appointment"
        cur.execute(query)
        return cur.fetchall()
    def get_unique_appointmentid(self):
        return len(self.all_appointments())+1
```

Output:



```
choose the options from given below
1.getAppointmentById
2.get appointment for patient
3.get Appointments For Doctor
4.schedule Appointment
5.update Appointment
6.cancel Appointment
7.exit
enter the option you have choosen4
enter the appointment date224-02-17
enter the reasonregular checkup
enter the first nameakash
enter the last namedevaki
enter the dateofbirth2002-01-10
enter the gendermale
enter the contactnumber7845125
enter the addresspvr complex mumbai
choose the options from given below
1.getAppointmentById
2.get appointment for patient
3.get Appointments For Doctor
```

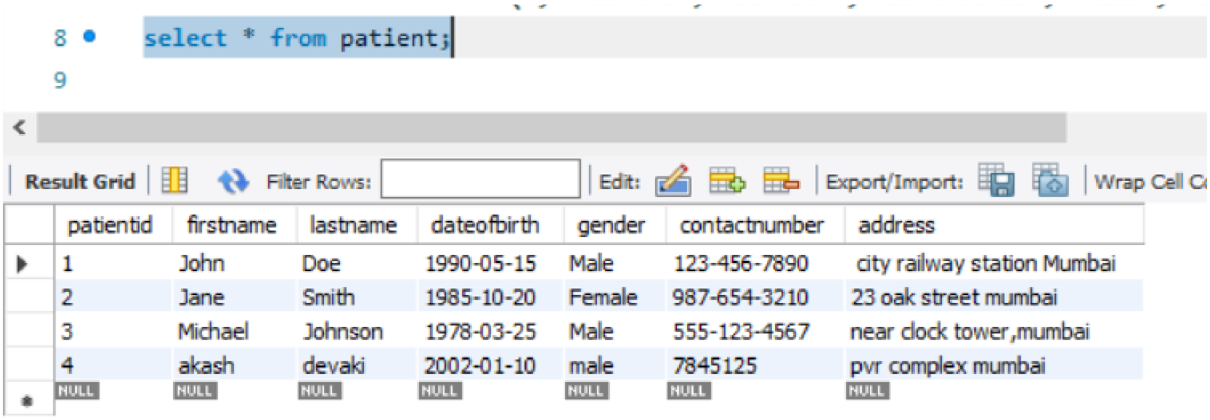
Appointment table:



```
select * from appointment;
```

appointmentid	patientid	doctorid	appointdate	description
1	1	1	2024-02-10	Consultation for surgery
2	2	2	2024-02-12	Follow-up on medication
3	3	3	2024-02-15	Follow-up on medication
4	4	3	0224-02-17	regular checkup
NULL	NULL	NULL	NULL	NULL

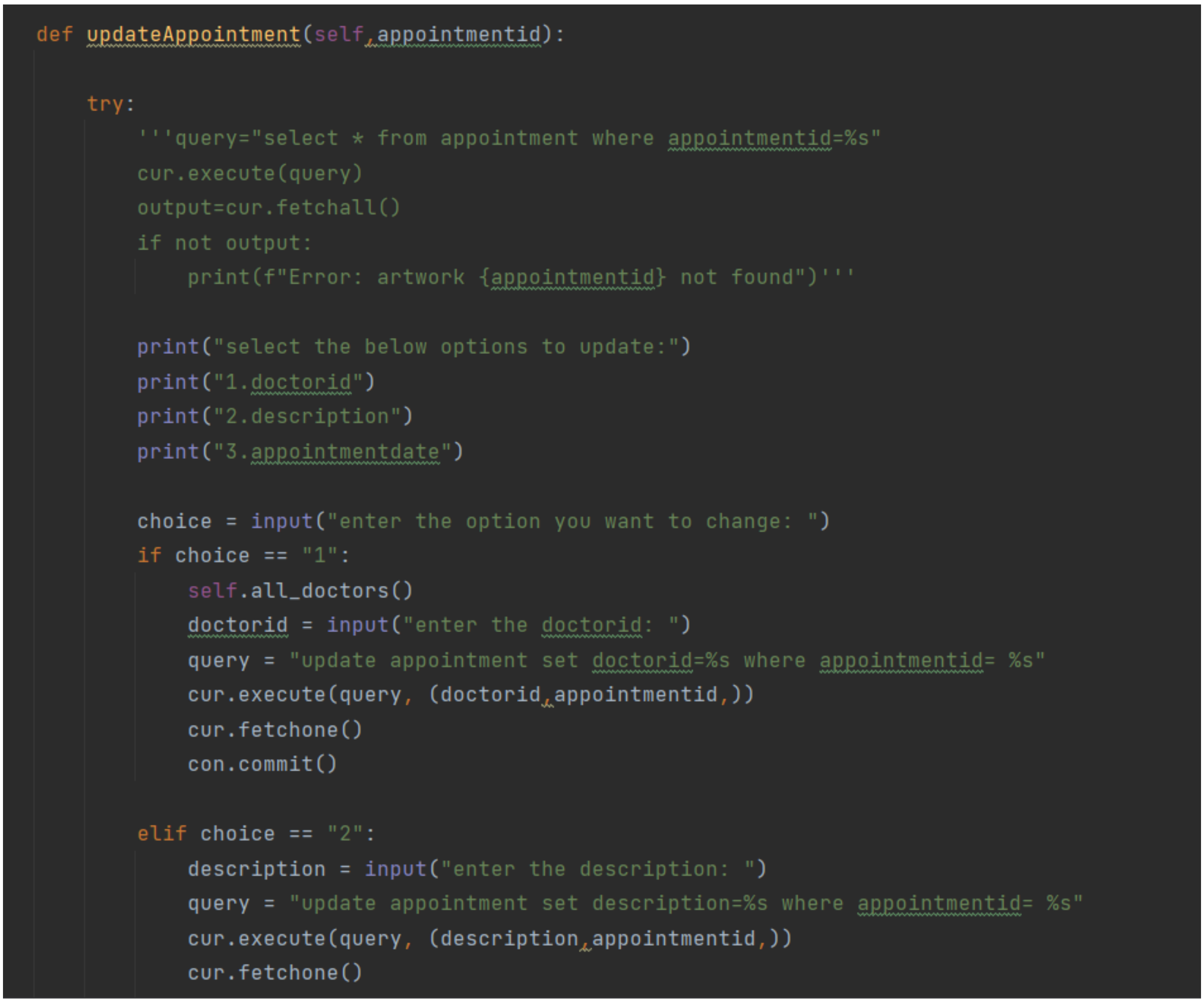
Patient table:



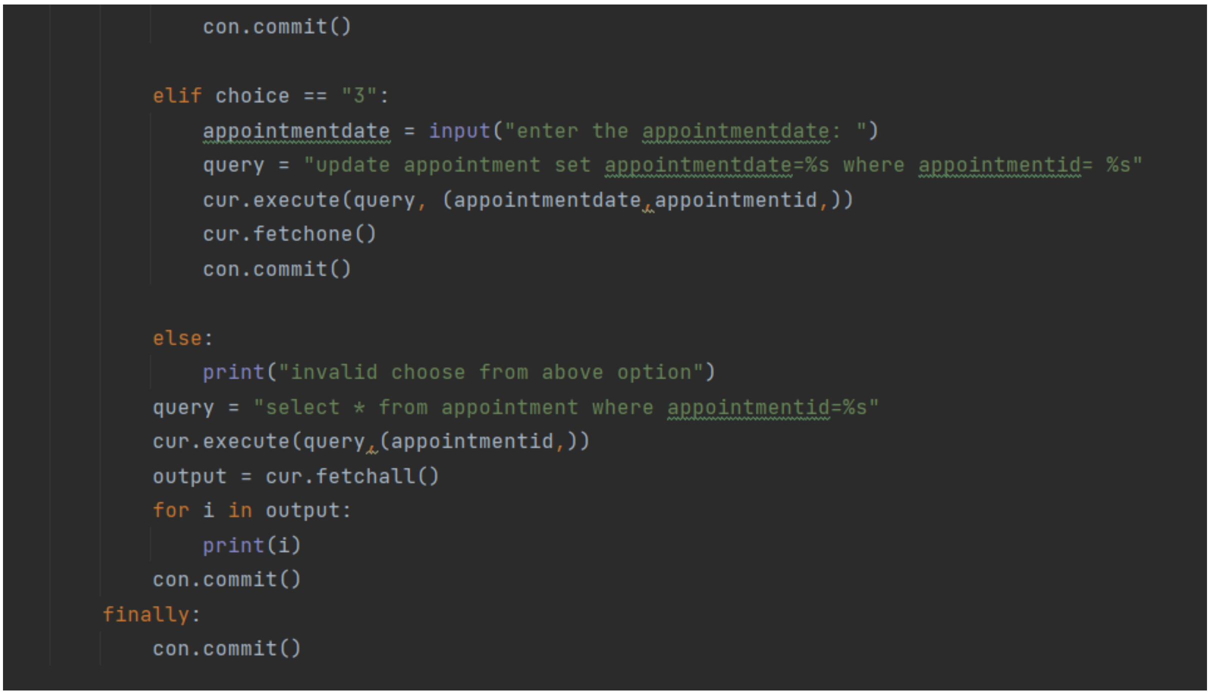
```sql
select * from patient;
```

patientid	firstname	lastname	dateofbirth	gender	contactnumber	address
1	John	Doe	1990-05-15	Male	123-456-7890	city railway station Mumbai
2	Jane	Smith	1985-10-20	Female	987-654-3210	23 oak street mumbai
3	Michael	Johnson	1978-03-25	Male	555-123-4567	near clock tower,mumbai
4	akash	devaki	2002-01-10	male	7845125	pvr complex mumbai
NULL	NULL	NULL	NULL	NULL	NULL	NULL

Update Appointment:

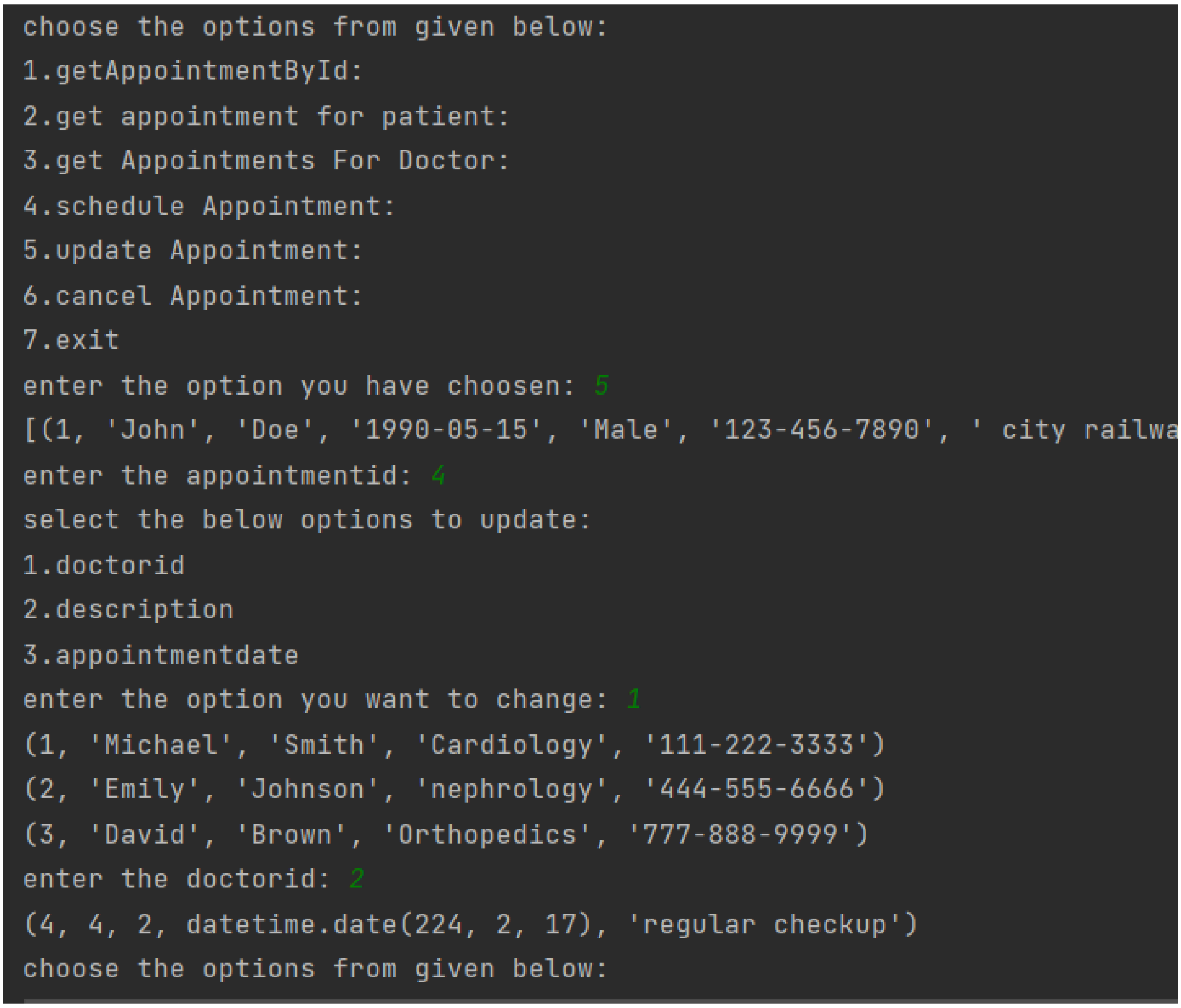


```python
def updateAppointment(self,appointmentid):

    try:
        '''query="select * from appointment where appointmentid=%s"
        cur.execute(query)
        output=cur.fetchall()
        if not output:
            print(f"Error: artwork {appointmentid} not found")'''

        print("select the below options to update:")
        print("1.doctorid")
        print("2.description")
        print("3.appointmentdate")

        choice = input("enter the option you want to change: ")
        if choice == "1":
            self.all_doctors()
            doctorid = input("enter the doctorid: ")
            query = "update appointment set doctorid=%s where appointmentid= %s"
            cur.execute(query, (doctorid,appointmentid,))
            cur.fetchone()
            con.commit()

        elif choice == "2":
            description = input("enter the description: ")
            query = "update appointment set description=%s where appointmentid= %s"
            cur.execute(query, (description,appointmentid,))
            cur.fetchone()
```



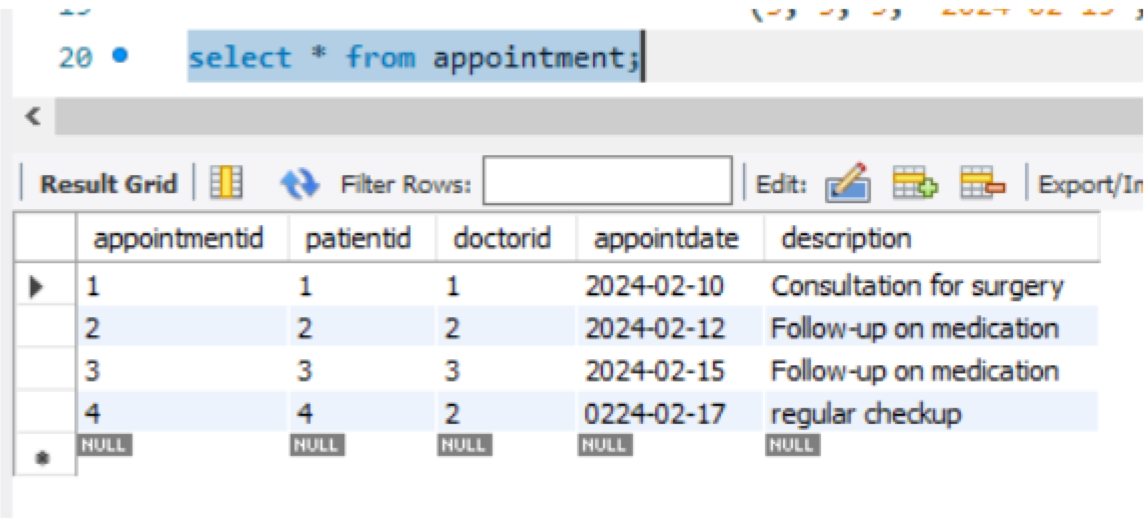
```
                con.commit()

            elif choice == "3":
                appointmentdate = input("enter the appointmentdate: ")
                query = "update appointment set appointmentdate=%s where appointmentid= %s"
                cur.execute(query, (appointmentdate,appointmentid,))
                cur.fetchone()
                con.commit()

            else:
                print("invalid choose from above option")
            query = "select * from appointment where appointmentid=%s"
            cur.execute(query,(appointmentid,))
            output = cur.fetchall()
            for i in output:
                print(i)
            con.commit()
        finally:
            con.commit()
```

Output:



```
choose the options from given below:
1.getAppointmentById:
2.get appointment for patient:
3.get Appointments For Doctor:
4.schedule Appointment:
5.update Appointment:
6.cancel Appointment:
7.exit
enter the option you have choosen: 5
[(1, 'John', 'Doe', '1990-05-15', 'Male', '123-456-7890', ' city railwa
enter the appointmentid: 4
select the below options to update:
1.doctorid
2.description
3.appointmentdate
enter the option you want to change: 1
(1, 'Michael', 'Smith', 'Cardiology', '111-222-3333')
(2, 'Emily', 'Johnson', 'nephrology', '444-555-6666')
(3, 'David', 'Brown', 'Orthopedics', '777-888-9999')
enter the doctorid: 2
(4, 4, 2, datetime.date(224, 2, 17), 'regular checkup')
choose the options from given below:
```

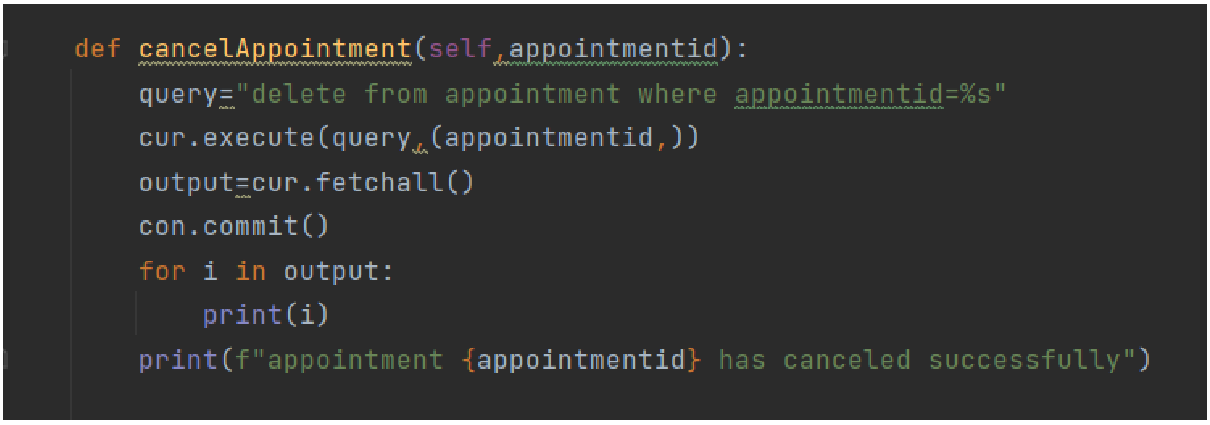
Database:



```sql
select * from appointment;
```

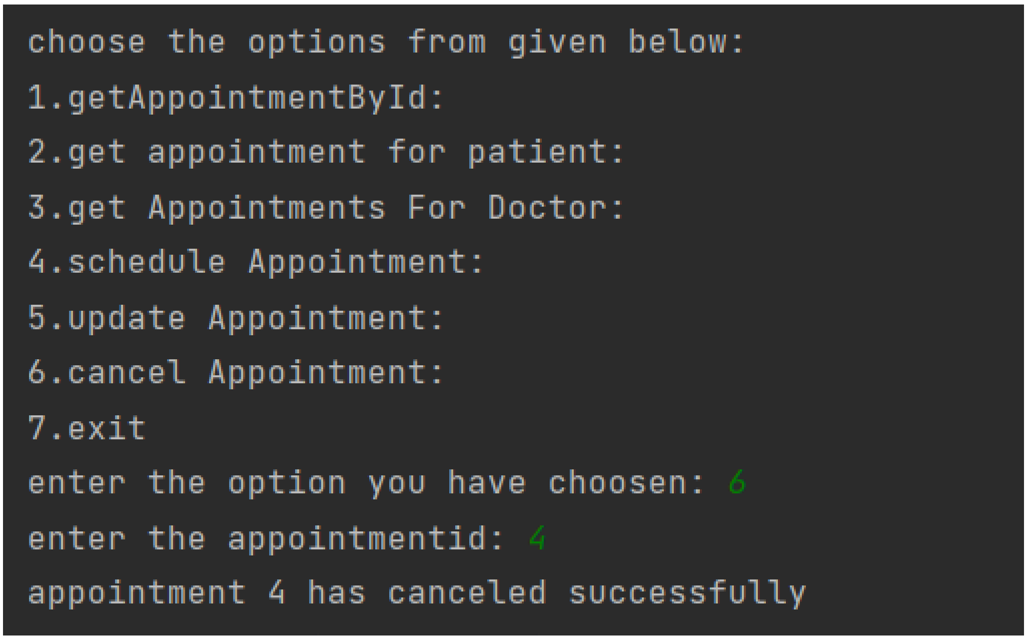
	appointmentid	patientid	doctorid	appointdate	description
▶	1	1	1	2024-02-10	Consultation for surgery
	2	2	2	2024-02-12	Follow-up on medication
	3	3	3	2024-02-15	Follow-up on medication
	4	4	2	0224-02-17	regular checkup
*	NULL	NULL	NULL	NULL	NULL

Appointment cancel:



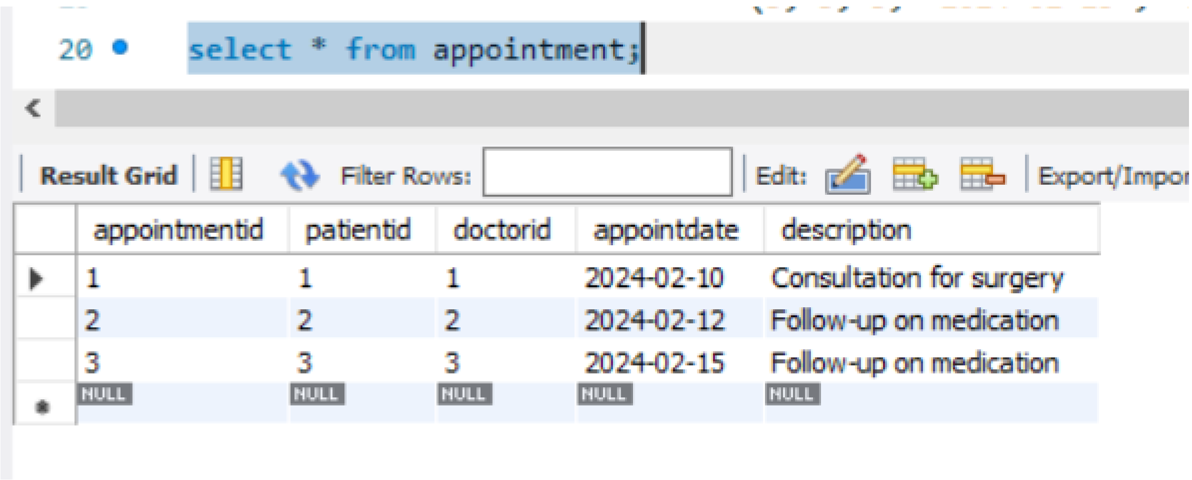
```python
def cancelAppointment(self,appointmentid):
    query="delete from appointment where appointmentid=%s"
    cur.execute(query,(appointmentid,))
    output=cur.fetchall()
    con.commit()
    for i in output:
        print(i)
    print(f"appointment {appointmentid} has canceled successfully")
```

Output:



```
choose the options from given below:
1.getAppointmentById:
2.get appointment for patient:
3.get Appointments For Doctor:
4.schedule Appointment:
5.update Appointment:
6.cancel Appointment:
7.exit
enter the option you have choosen: 6
enter the appointmentid: 4
appointment 4 has canceled successfully
```

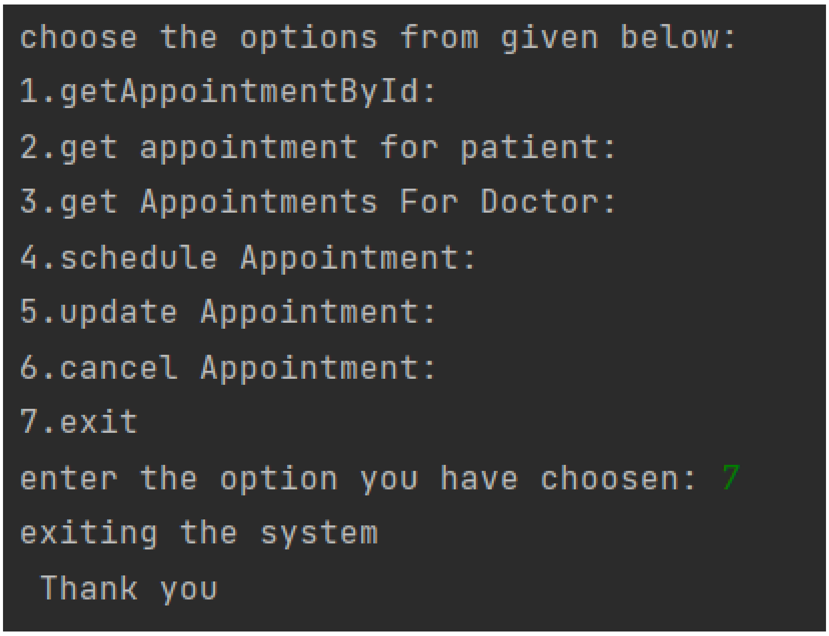
Database:



```
select * from appointment;
```

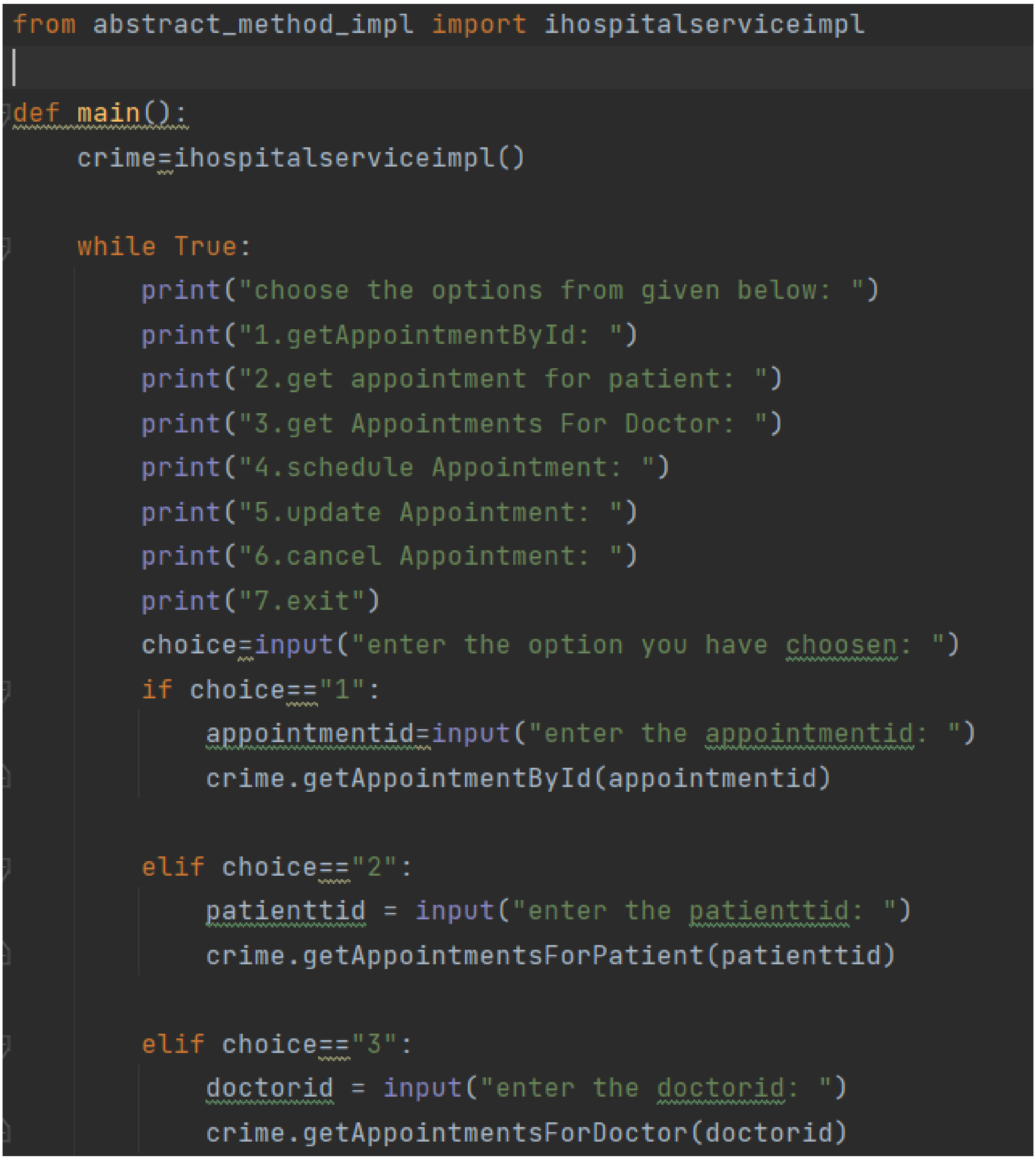
appointmentid	patientid	doctorid	appointdate	description
1	1	1	2024-02-10	Consultation for surgery
2	2	2	2024-02-12	Follow-up on medication
3	3	3	2024-02-15	Follow-up on medication
NULL	NULL	NULL	NULL	NULL

Exit:

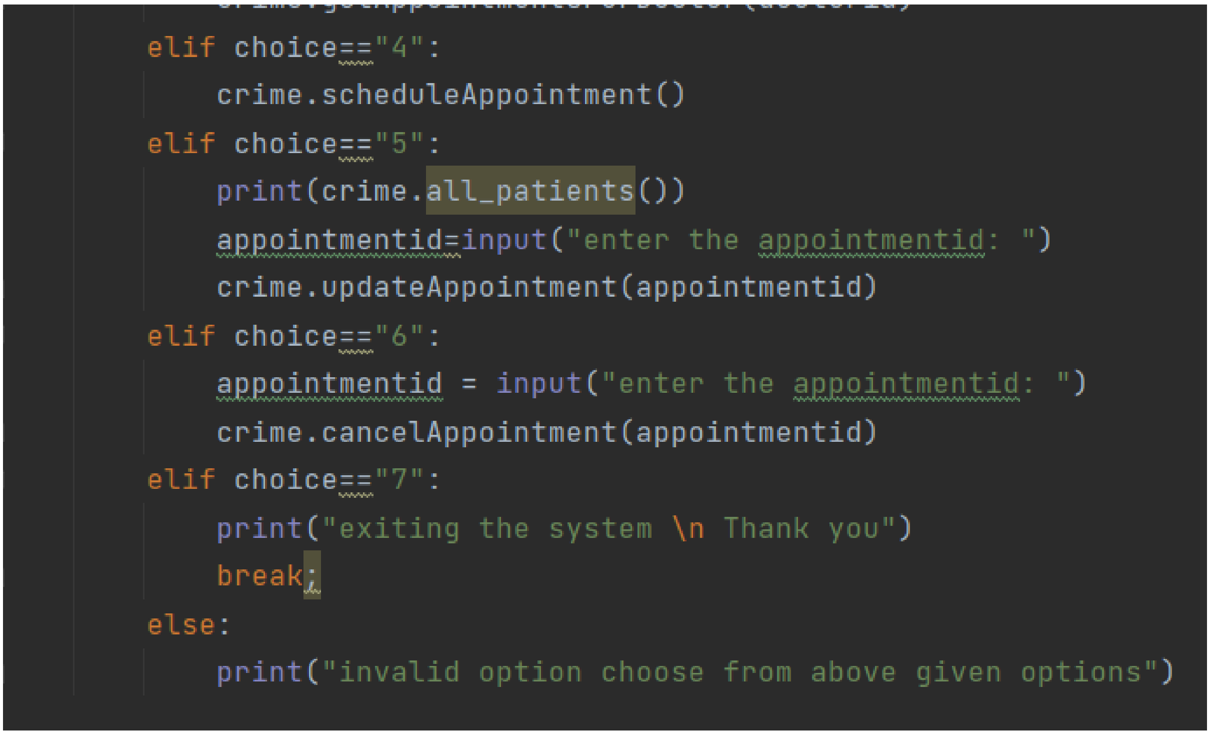


```
choose the options from given below:
1.getAppointmentById:
2.get appointment for patient:
3.get Appointments For Doctor:
4.schedule Appointment:
5.update Appointment:
6.cancel Appointment:
7.exit
enter the option you have choosen: 7
exiting the system
 Thank you
```

Hospital App:



```
from abstract_method_impl import ihospitalserviceimpl

def main():
    crime=ihospitalserviceimpl()

    while True:
        print("choose the options from given below: ")
        print("1.getAppointmentById: ")
        print("2.get appointment for patient: ")
        print("3.get Appointments For Doctor: ")
        print("4.schedule Appointment: ")
        print("5.update Appointment: ")
        print("6.cancel Appointment: ")
        print("7.exit")
        choice=input("enter the option you have choosen: ")
        if choice=="1":
            appointmentid=input("enter the appointmentid: ")
            crime.getAppointmentById(appointmentid)

        elif choice=="2":
            patienttid = input("enter the patienttid: ")
            crime.getAppointmentsForPatient(patienttid)

        elif choice=="3":
            doctorid = input("enter the doctorid: ")
            crime.getAppointmentsForDoctor(doctorid)
```



```
            crime.getAppointmentsForDoctor(doctorid)
        elif choice=="4":
            crime.scheduleAppointment()
        elif choice=="5":
            print(crime.all_patients())
            appointmentid=input("enter the appointmentid: ")
            crime.updateAppointment(appointmentid)
        elif choice=="6":
            appointmentid = input("enter the appointmentid: ")
            crime.cancelAppointment(appointmentid)
        elif choice=="7":
            print("exiting the system \n Thank you")
            break;
        else:
            print("invalid option choose from above given options")
```