Practice Task (17 - 22) Ungraded

Question 17

Design a **Student** class so that the following output is produced upon executing the following code

Driver Code	Output
# Write your code here **# Do not change the following lines of code.** s1 = Student() print("==========") s2 = Student("Carol") print("==========") s3 = Student("Jon", "EEE") print("==========") s1.update_name("Bob") s1.update_department("CSE") s2.update_department("BBA") s1.enroll("CSE110", "MAT110", "ENG091") s2.enroll("BUS101") s3.enroll(""MAT110", "PHY111") print("##########") s1.printDetail() print("==========") s2.printDetail() print("==========") s3.printDetail()	Student name and department need to be set ========== Department for Carol needs to be set ========== Jon is from EEE department ========== ########## Name: Bob Department: CSE Bob enrolled in 3 course(s): CSE110, MAT110, ENG091 ========== Name: Carol Department: BBA Carol enrolled in 1 course(s): BUS101 ========== Name: Jon Department: EEE Jon enrolled in 2 course(s): MAT110, PHY111

Question 18

Design a **Student** class so that the following output is produced upon executing the following code:
[Hint: Each course has 3.0 credit hours. You must take at least 9.0 and at most 12.0 credit hours]

Driver Code	Output
# Write your code here **# Do not change the following lines of code.** s1 = Student(“Alice”,“20103012”,“CSE”) s2 = Student(“Bob”, “18301254”,“EEE”) s3 = Student(“Carol”, “17101238”,“CSE”) print(“############################”) print(s1.details()) print(“############################”) print(s2.details()) print(“############################”) s1.advise(“CSE110”, “MAT110”, “PHY111”) print(“############################”) s2.advise(“BUS101”, “MAT120”) print(“############################”) s3.advise(“MAT110”, “PHY111”, “ENG102”, “CSE111”, “CSE230”)	############################ Name: Alice ID: 20103012 Department: CSE ############################ Name: Bob ID: 18301254 Department: EEE ############################ Alice, you have taken 9.0 credits. List of courses: CSE110, MAT110, PHY111 Status: Ok ############################ Bob, you have taken 6.0 credits. List of courses: BUS101, MAT120 Status: You have to take at least 1 more course. ############################ Carol, you have taken 15.0 credits. List of courses: MAT110, PHY111, ENG102, CSE111, CSE230 Status: You have to drop at least 1 course.

Question 19

Write the **Hotel** class with the required methods to give the following output as shown.

Driver Code	Output
# ***Write your code here*** # **Do not change the following lines of code.** h = Hotel("Lakeshore") h.addStuff("Adam", 26) print("==========") print(h.getStuffById(1)) print("==========") h.addGuest(“Carol”,35,”123”) print("==========") print(h.getGuestById(1)) print("==========") h.addGuest("Diana", 32, “431”) print("==========") print(h.getGuestById(2)) print("==========") h.allStaffs() print("==========") h.allGuest()	Staff With ID 1 is added ========== Staff ID: 1 Name: Adam Age: 26 Phone no.: 000 ========== Guest With ID 1 is created ========== Guest ID: 1 Name: Carol Age: 35 Phone no.: 123 ========== Guest With ID 2 is created ========== Guest ID: 2 Name: Dianal Age: 32 Phone no.: 431 ========== All Staffs: Number of Staff: 1 Staff ID: 1 Name: Adam Age: 26 Phone no: 000 ========== All Guest: Number of Guest: 2 Guest ID: 1 Name: Carol Age: 35 Phone no.: 123 Guest ID: 2 Name: Dianal Age: 32 Phone no.: 431

Question 20

Write the **Author** class with the required methods to give the following outputs as shown.

Driver Code	Output
# ***Write your code here*** # **Do not change the following lines of code.** a1 = Author() print("==========") a1.addBook("Ice", "Science Fiction") print("==========") a1.setName("Anna Kavan") a1.addBook("Ice", "Science Fiction") a1.printDetail() print("==========") a2 = Author("Humayun Ahmed") a2.addBook("Onnobhubon", "Science Fiction") a2.addBook("Megher Upor Bari", "Horror") print(==========") a2.printDetail() a2.addBook("Ireena", "Science Fiction") print("==========") a2.printDetail() print("==========")	========== A book can not be added without author name ========== Number of Book(s): 1 Author Name: Anna Kavan Science Fiction: Ice ========== ========== Number of Book(s): 2 Author Name: Humayun Ahmed Science Fiction: Onnobhubon Horror: Megher Upor Bari ========== Number of Book(s): 3 Author Name: Humayun Ahmed Science Fiction: Onnobhubon, Ireena Horror: Megher Upor Bari ==========

Question 21

Implement the design of the **Hospital, Doctor and Patient** class so that the following output is produced:

Driver Code	Output
# Write your code here **# Do not change the following lines of code.** h = Hospital("Evercare") d1 = Doctor("1d","Doctor", "Samar Kumar", "Neurologist") h.addDoctor(d1) print("==========") print(h.getDoctorByID("1d")) print("==========") p1 = Patient("1p","Patient", "Kashem Ahmed", 35, 12345) h.addPatient(p1) print("==========") print(h.getPatientByID("1p")) print("==========") p2 = Patient ("2p","Patient", "Tanina Haque", 26, 33456) h.addPatient(p2) print("==========") print(h.getPatientByID("2p")) print("==========") h.allDoctors() h.allPatients()	========== Doctor's ID: 1d Name: Samar Kumar Speciality: Neurologist ========== ========== Patient's ID: 1p Name: Kashem Ahmed Age: 35 Phone no.: 12345 ========== ========== Patient's ID: 2p Name: Tanina Haque Age: 26 Phone no.: 33456 ========== All Doctors: Number of Doctors: 1 {'1d': ['Samar Kumar', 'Neurologist']} All Patients: Number of Patients: 2 {'1p': ['Kashem Ahmed', 35, 12345], '2p': ['Tanina Haque', 26, 33456]}

Question 22

Design the **Vaccine** and **Person** class so that the following expected output is generated.
[N.B: Students will get vaccines on a priority basis. So, age for students doesn't matter**]**

Driver Code	Output
# Write your code here astra = Vaccine("AstraZeneca", "UK", 60) modr = Vaccine("Moderna", "UK", 30) sin = Vaccine("Sinopharm", "China", 30) p1 = Person("Bob", 21, "Student") print("==========") p1.pushVaccine(astra) print("==========") p1.showDetail() print("==========") p1.pushVaccine(sin, "2nd Dose") print("==========") p1.pushVaccine(astra, "2nd Dose") print("==========") p1.showDetail() print("==========") p2 = Person("Carol", 23, "Actor") print("==========") p2.pushVaccine(sin) print("==========") p3 = Person("David", 34) print("==========") p3.pushVaccine(modr) print("==========") p3.showDetail() print("==========") p3.pushVaccine(modr, "2nd Dose")	========== 1st dose done for Bob ========== Name: Bob Age: 21 Type: Student Vaccine name: AstraZeneca 1st dose: Given 2nd dose: Please come after 60 days ========== Sorry Bob, you can't take 2 different vaccines ========== 2nd dose done for Bob ========== Name: Bob Age: 21 Type: Student Vaccine name: AstraZeneca 1st dose: Given 2nd dose: Given ========== ========== Sorry Carol, Minimum age for taking vaccines is 25 years now. ========== ========== 1st dose done for David ========== Name: David Age: 34 Type: General Citizen Vaccine name: Moderna 1st dose: Given 2nd dose: Please come after 30 days ========== 2nd dose done for David