Lab Assessment - 2

Slot :L5+L6 **Date: 22/2/2021**

Time : 11:30 - 1:00 **Prof incharge - Dr. A. Anitha**

General Instructions

The students allotted with the question number is available at the end of the document.

1. Write your Name, Regno, Course code, Course Title, Slot on the top of the word document.

2. Copy the allotted question along with the question number and paste on the word document, which you are about to submit.

3. Compile both the source (.java) program and (output) files in the same word document and make it as a single PDF file and upload as a single program. The program should be followed by its output.

Please follow the deadline and the time. ie. The students have to upload their pdf before their Lab session or can take at the maximum five minutes after the Lab session gets over. The Assessment cannot be submitted after the deadline. The Vtop doesn't have the option for late submission, so if the student fails to submit the assignment, the mark for the assignment will be provided as ZERO.

1.. Write an inheritance hierarchy for classes Quadrilateral, Trapezoid, Parallelogram, Rectangle and Square. Use Quadrilateral as the superclass of the hierarchy. Create and use a Point class to represent the points in each shape. Make the hierarchy as deep (i.e., as many levels) as possible. Specify the instance variables and methods for each class. The private instance variables of Quadrilateral should be the x-y coordinate pairs for the four endpoints of the Quadrilateral. Write a program that instantiates objects of your classes and outputs each object's area (except Quadrilateral).

2. College offers a course that prepares students for the state licensing exam for real estate brokers. Last year, ten of the students who completed this course took the exam. The college wants to know how well its students did on the exam. You've been asked to write a program to summarize the results. You've been given a list of these 10 students. Next to each name is written a 1 if the student passed the exam or a 2 if the student failed. Your program should analyze the results of the exam as follows:

1. Input each test result (i.e., a 1 or a 2). Display the message "Enter result" on the screen each time the program requests another test result. 2. Count the number of test results of each type.

3. Display a summary of the test results, indicating the number of students who passed and the number who failed.

4. If more than eight students passed the exam, print the message "Bonus to instructor!"

3. Write an abstract class with an abstract method double Process (double P, double R). Create a subclass Discount and implement the Process() method with the following formula: net=P-P*R/100. Return the net value. Create another subclass Tax and implement the Process() method with the following formula: total=P+P*R/100. Return the total.

4. Create an interface IList having the following methods orderedInset (item) and insertAtpos int pos , item).setElementAtpos(int pos , item),DeleteAtpos(int post) and deleteElement((item).
Create a class LList [The class LList implements the interface IList...]
The List is used to store the names of employees.
- Create a constructor that constructs a list of a given size.
- Create a constructor that copies one list object into another.
- Create a constructor that constructs and initializes a list of given size.
- Call all the above defined functions.
- Write the code to implement LList.

5. Create a new class Car with the following methods:
- public void start()
- public void stop()
- public int drive(int howlong)

a) The method drive() has to return the total distance driven by the car for the specified time. Use the following formula to calculate the distance: Distance = howlong* 60;
b) Write another class CarOwner and that creates an instance of the object Car and call its methods. The result of each method call has to be printed using System.out.println().
c) Create a subclass of Car named JamesBondCar and override the method drive() there. Use the following formula to calculate the distance: Distance = howlong* 180;
d) Be creative, print some funny messages!!!

REGISTER NO	NAME	Question number
18BCB0001	VAIBHAV VIJAY	1
18BCB0015	ADITI RANGANATH	2
18BCB0022	SUMITRA LELE	3

18BCB0024	M SIDDHARTH	4
18BCB0030	PRATEEK CHATURVEDI	5
18BCE0050	KUMAR UTKARSH	1
18BCE0149	ATUL RAJ	2
18BCE0169	JAMI DEEPESH	3
18BCE0196	MOHD UMAR	4
18BCE0246	ATHARVA MAHENDRA HUNDARE	5
18BCE0256	YERRAPATHRUNI KRISHNA CHAITANYA	1
18BCE0260	KOPPAVARAPU SIVAPRANAV	2
18BCE0269	NIKHIL KUMAR SINGH	3
18BCE0288	KUNALA VENKATA LOKESWAR REDDY	4
18BCE0297	YAKALA MANOJ YADAV	5
18BCE0298	KASI NISANTH REDDY	1
18BCE0327	GUNDA SAI LIKHITH	2
18BCE0342	ANCHURI HARISH	3
18BCE0352	MUNAGA MOHANA SIVA SAI	4
18BCE0371	MERUVA DINESH BABU	5
18BCE0405	AMIT YADAV	1
18BCE0485	KANDAMURU MADHURYA	2
18BCE0549	RISHAB KUMAR	3
18BCE0552	SOMISETTY MANI SUSANTH	4
18BCE0555	HIMANSHU RUWATIA	5
18BCE0570	BHAVYA TANEJA	1
18BCE0571	PRIYANSHU MASKARA	2
18BCE0572	UMANG AGARWAL	3
18BCE0605	MAVUDI CHARAN	4
18BCE0686	S A HARIPRASAD	5
18BCE0691	ARYA ABROL	1
18BCE0710	SUBHANKAR AGARWALA	2
18BCE0715	SANJIT KUMAR	3
18BCE0759	SRI TEJA ALURI	4
18BCE0785	VRINDA CHOPRA	5
18BCE0792	SAGAR GUPTA	1
18BCE0806	PARTH PATEL	2
18BCE0829	ARYAN VATS	3
18BCE0831	J K VISHWAJEET	4
18BCE0842	NAIR VIGNESH UNNIKRISHNAN	5
18BCE0877	SANIDHYA SEHGAL	1
18BCE0887	THERAMREDDY DASAVANTH REDDY	2
18BCE0894	ISHIKA AHUJA	3
18BCE0898	MITADRU SAHA	4
18BCE0912	MALLA JYOTSNA SREE	5

	MAHIMA	
18BCE0917	ROHIT GANESH VALLAMKONDU	1
18BCE0975	ROSHAN JOHN	2
18BCE0983	HARSHA VARDAN KAMAL NALANAGULA	3
18BCE2025	RAJAT SAHAY	4
18BCE2038	SAGI HARSHAD VARMA	5
18BCE2136	SARTHAK SACHDEVA	1
18BCE2177	BHAVISHYA TARUN	2
18BCE2231	SHASHANK RAJORIA	3
18BCE2235	ADITYA PANT	4
18BCE2251	DIVYANG ARORA	5
18BCE2295	KANISHKA SOLANKI	1
18BCE2369	SAGAR KUMAR SAHA	2
18BCE2382	ANINDYA SEN	3
18BCE2486	ASHMIT BHATTA	4
18BCI0093	LEBURU GOKUL	5
18BCI0120	GOWTHAM POLLAM	1
19BCE2664	AAYUSH PARAJULI	2
19BCE2665	ROHIT ROUNIYAR	3
19BCI0093	SAJAL PUNDHIR	4
19BCT0006	N BADRINARAYAN	5