Exp. No : 4	**CREATING USED DEFINED DATATYPES USING CLASSES AND OBJECTS**
Choose your three questions based on the formulae given below,	
Q1=((Regno%6)+1), Q2=((Regno%7)+6	
1	Create a class called time that has separate int member data for hours, minutes and seconds. One constructor should initialize this data to 0, and another should initialize it to fixed values. Another member function should display it, in 11:59:59 format. The final member function should add two objects of type time passed as arguments. A main () program should create two initialized time objects and one that isn't initialized. Then it should add the two initialized values together, leaving the result in the third variable. Finally it should display the value of this variable. Make appropriate member functions const.
2	Imagine a tollbooth at a bridge. Cars passing by the booth are expected to pay a 50 cent toll. Mostly they do, but sometimes a car goes by without paying. The tollbooth keeps track of the number of cars that have gone by, and of the total amount of money collected. Model this tollbooth with a class called *tollbooth*. The two data items are a type unsigned int to hold the total number of cars, and a type double to hold the total amount of money collected. A constructor initializes both of these to 0. A member function called payingcar() increments the car total and adds 0.50 to the cash total. Another function, called nopaycar(), increments the car total but adds nothing to the cash total. Finally, a member function called display() displays the two totals. Make appropriate member functions const. Include a program to test this class. This program should allow the user to push one key to count a paying car, and another to count a nonpaying car. Pushing the Enter key should cause the program to print out the total cars and total cash and then exit.
3	Create a class called distance that contains two members: feet and inches. One constructor should initialize this data to zero and another should initialize it to fixed values. Another member function should display the data. The final member function should take an object as argument, add two distances and return the resultant object from functions. A main () program should create two initialized distance objects and one that isn't initialized. Then it should add the two initialized values, leaving the result in the third object. Finally it should display the values.
4	A book shop maintains the inventory of books that are being sold at the shop. The list includes details such as author, title, price, publisher and stock position. Whenever a customer wants a book, the sales person inputs the title and author and

	the system searches the list and displays whether it is available or not. If it is not, an appropriate message is displayed. If it is, then the system displays the book details and requests for the number of copies required. If the requested copies are available, the total cost of the requested copies is displayed; otherwise the message "Required copies is not in stock" is displayed. Design a system using a class called books with suitable member functions and constructors. Also incorporate the following features:
	
	    a) The price of the books should be updated as and when required. Use a private member function to implement this.
	    b) The stock value of each book should be automatically updated as soon as a transaction is completed.
	    c) The number of successful and unsuccessful transactions should be recorded for the purpose of statistical analysis. Use static data members to keep count of transactions.

5	Write a menu driven application to maintain the employee payroll details using JAVA. Your application must contain the following functionalities. Use constructors, getter and setter functions.
	
	    a. For each employee your application must have the details such as name, empid, department, designation, experience, basicPay, DA, gradePay, personalPay, iTax, professionalTax, epf
	    b. Get the employee details from user(admin)
	    c. In the menu give the user options to add, edit, delete or display the employee details.

6	Write a menu driven application to maintain the student information using JAVA. Your application must have the following functionalities. Use constructors, getter and setter functions.
	
	    For each student your application must have the details such as name, registerNo,department, specialization, cgpa, hostelName, mentorName,noOfArrears.
	    Get the student details from user(admin)
	    In the menu give the user options to add, edit, delete or display the student details

7	Write a menu driven application to maintain the Student Grade Sheet using JAVA. Your application must contain the following functionalities. Use constructors, getter and setter functions.
	
	    For each student in your application must have the details such as name, registerNo, department, specialization, semester as basic details.
	    For each student maintain 5 subject details as subjectName, subjectCode,mark,grade. Calculate the grade for each

	subject based on the mark. In the menu give the user options to add, edit, delete or display the student grade details
8	Write a menu driven application to maintain the department details of a University using JAVA. Use constructors, getter and setter functions. Your application must contain the following functionalities. For each department maintain the following details. i. deptName ii. hodName iii. noOfFaculty iv. noOfStudents v. noOfPrograms Get the department details from user(admin) In the menu give the user options to add, edit, delete or display the department details
9	Write a menu driven application to maintain the smart phone technical specifications for various brands using JAVA. Use constructors, getter and setter functions. Your application must contain the following functionalities. For each mobile your application must maintain the details such as productName, operatingSystem, displaySize, memory, etc. Get the product details from admin In the menu give the user options to add, edit, delete or display the smart phone details
10	Write a menu driven application to perform the banking operations using JAVA. Your application must contain the following functionalities. Use constructors, getter and setter functions wherever required. In the menu give options for Account Creation, Balance Enquiry, Deposit and Withdrawal Do not allow to withdraw money if the balance is $<= 500$ Initial balance must be a minimum of 500.
11	Write a menu driven application to perform the ATM operations using JAVA. Your application must contain the following functionalities. Use constructors, getter and setter functions. In the menu give options for Balance Enquiry, Withdrawal and PIN change Do not allow to withdraw money if the balance is $<= 500$ Do not allow to withdraw money if the amount is not a multiple of 100.
12	Define a class in JAVA with following description:

Private Members

A data member Flight number of type integer
A data member Destination of type string
A data member Distance of type float
A data member Fuel of type float
A member function CALFUEL () to calculate the value
of Fuel as per the following criteria

Distance	Fuel
<=1000	500
more than 1000 and <=2000	1100
more than 2000	2200

Public Members

A function FEEDINFO() to allow user to enter values for Flight Number, Destination, Distance & call function CALFUEL() to calculate the quantity of Fuel

A function SHOWINFO () to allow user to view the content of all the data members solution