Back-end Training

Chap 5: Object Oriented Programming

Programming Questions

	Programming Questions	Related Concept
Q.1)	Create a class 'Transaction' which represents a banking transaction using following attributes. TransactionID AccountNumber TypeofTransaction Amount TransactionDate Provide the following functions. 1) AddNewTransaction( ) 2) DeleteTransaction( ) 3) DisplayAllTransactionsWithDateRange( ) - displays all the transations for the given account during the given date range 4) GetTransactionWithId( ) (A suitable collection can be used for storing the objects)	Class and Object
Q.2)	Create a class Customer which stores CustomerID (AutoIncrement), Name, Age, Mobile, Location. The application should provide following functions. 1) AddCustomer( ) 2) AddBulkCutomers( ) 3) RemoveCustomer( ) 4) SortCustomersById( ) 5) SortCustomersByName( ) 6) SortByLocationThenByName( ) (Use array of objects for storing the objects)	OOP and Static Data
Q.3)	Create a class Account which stores Acccount Number, Name of Account Holder, Date of Birth, Current Balance, Minimum Balance Required (Common across all accounts). Provide following functionalities: AddNewAccount( ) DeleteAccount( ) GetAllAccounts( ) Deposit( ) Withdraw( ) TransferMoney( ) - from one acccount to another (A suitable collection can be used for storing the objects)	OOP and Static Data

Q.4)	Create a class 'Complex' which represents a complex number using real and imaginary part. Provide the appropriate functions to perform the following operations: (a) Addition - Adding two complex numbers (b) Subtraction (c) Multiplication (d) Division (e) Modulus – returns the modulus of a complex number (f) Interchange – returns the complex number by interchanging real and imaginary part Create appropriate ToString method for displaying complex object Use switch case in main to provide a user interactive approach.	Object Passing
Q.5)	Create a class MyArray and provide the following functions: (a) FindMean( ) – to find the mean of the array (b) FindMedian( ) – to find the median of the array (c) RemoveDuplicates( ) (d) RoateLeft(int k) - it rotates the array to left by k positions (e) RotateRight(int k) - it rotates the array to right by k positions (f) CompareArrays( ) - compares two arrays for equality (g) CompareByStandardDeviation( ) - compares two arrays based on their standard deviation (h) Also override ToString method appropriately.	OOP with Array Processing
Q.6)	Create a class MyMatrix which stores a rectangular matrix. Provide following functionalities: (a) Addition( ) (b) Multiplication( ) (c) Transpose( ) (d) IsSymmetric( ) (e) FindSumOfEachRow( ) (f) FindSumOfEachColumn( ) (g) FindSaddlePoint( ) - finds and returns the saddle point of the matrix otherwise returns null (h) Also override ToString Method appropriately to return matrix in appropriate form.	OOP with 2D Array