A clinic must record details of Doctors. The Doctor has ID, name and specialization as attributes and an abstract method computeSalary():double. Write the parameterized constructor and toString() method. The SalariedDoctors inherits from Doctor and has attributes - basicPay and noOfOperations (type int) which denotes operations done per month. The salary is basicPay + noOfOperations *2000. The other class VisitingDoctor is also a sub class of Doctor and has noOfVisits(type int), travelFare, accommodationFare as attributes. The salary is noOfVisits*(travelFare+accomodationFare). The Clinic class has main() method which is menu driven with the following options: 1. Add new Doctor data, 2. Print all Doctors data

Define a class Shape with the abstract methods edges(), vertices(). Both return an integer. The class Rectangle

(with 4 edges and 4 vertices) inherits Shape and has length and breadth as its attributes of type double and the methods area() (computes area of Rectangle and returns double) and toString() that prints in the following format: Rectangle – Edges: 4, Vertices: 4, Length: 5m, Breadth: 2m, Area: 10 sq.m. The class Cuboid inherits Rectangle with height as its attribute and volume (): double as method, and prints the data in the following format: Cuboid – Edges: 12, Vertices:8, Length: 5m, Breadth:2m, Height: 3m, Volume:30.cu.m The volume() invokes area() method of its parent during computation of volume which is length * breadth * height.

Draw the class diagram and develop a class Employee (with ID, name, gender, salary as private instance members), define the parameterized constructor and format the output as ID: 1234 Name: ABC Gender: Male Salary: $2400 The main () method must be menu driven with the following options: 1. Add New Employee 2. Print all Employee data 3. Sort based on salary Store the data in an ArrayList

Write a program that prompts the user to enter the length (in feet) as input. The program must output the number of inches. If the user enters a negative number or a non-digit, throw InvalidInputException. (Create a user defined Exception)

Create an abstract class 'Bank' with an abstract method 'getBalance'. $100, $150 and $200 are balances in banks A, B and C respectively. 'BankA', 'BankB' and 'BankC' are subclasses of class 'Bank'. Call this method by creating an object of each of the three classes.

Draw class diagram and develop a class Person firstName and lastName as private attributes. The class Voter inherits Person with ID and age as attributes. The age must be >=18 and <=110, otherwise the setter must throw a user-defined exception InvalidAgeException. Write constructor, toString() method. Handle the exception during object instantiation.

An E-Commerce website sells Mobiles. Every Mobilehas brand, model, price as attributes. Store the data inan ArrayList and sort them by a) price and b) brand

Draw the class Diagram and develop logic for thefollowing:Consider a static methodcomputeTotal():int. The method reads marks of 3subjects secured by a student, computes and returnstotal. Marks must be within the range of 0-100,otherwise throw InvalidMarksException. (Create auser defined Exception).

Explain Factory pattern with an example program

The administration of a company decides to record the following data of its Employees – ID and PAN (String). The PAN is a ten-character long alpha-numeric unique identifier. The PAN structure is as follows: AAAPL1234C: The first five characters are letters, followed by four numerals, and the last (tenth) character is a letter. If invalid the setter must throw an Exception. Handle the exception in main() method of EmployeeTest class.

Explain all the uses of final keyword in java with example.

Explain Strings with example program.

Exaplain String Buffer and String Builder with example program