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**Roll No:- CE116**

**Subject:- JT (JAVA TECHNOLOGIES)**

**Lab No.:- 01-04**

**Lab:- 02**

Exercise:

**Step1:** Know your own business domain based on the math formula below: (Student’s Roll\_number % 16) from provided list: 4. Personal Beauty

**Step2:** Create a class Product to be able to identify any product globally having id, name and description with constructors, getters and setters and display/toString. Add the following to Product class: a static variable numberOfProducts (to count the number of objects) a static block to initialize numberOfProducts variable to zero a static method getNumberOfProducts() that returns the number of product objects created.

**Step3:** Write a DriverProduct class containing main() method to do the following: a) Store the details of a few products by creating independent objects of Product class and display them. b) Lastly call the getNumberOfProducts() to display the number of product’s objects created.

**Step4:** Create required classes for the product departments of your business domain with appropriate additional properties/data members (minimum four) and additional behaviors/methods including -constructors, accessors, mutators, display/toString and additional logical processing (minimum three)

->Using IS-A relationship ,Created Mens, Womens, children.

**Step5:** Write a DriverProductDepartment a) Store the details of additional 3 or more business domain specific department products by creating an array of objects and display the details of the departmental product. b) Lastly call the getNumberOfProducts() to display the number of product’s objects created.

->Created HairOil,Facewash… etc classes

**Lab:- 03**

Read through following business requirements and as applicable to your business domain/store, design and implement classes. Test classes using driver/s.

Make modifications in your previously designed Product class so that no object can ever be created.

->Done using abstract class and Iterfaces.

Retain information of customers including name, addresses (one billing and one or more shipping), primary phone number, secondary phone number, email address and date of birth.

->Done using Has-a relationship

-> java.util.ArrayList is used for retaining information and avoid redundancy using Hashset.

**Lab:- 04**

Read through following business requirements and as applicable to your business domain/store, design and implement new classes or upgrade existing classes. Test classes using driver/s. Use sophisticated data structures [Hint: Use collections framework] to hold results and not only display them out. This is because many times, integration of services or further usage of data structures as part of a bigger task is of importance other than just displaying on the screen once.

->Using Collection Frameworks

Persist following so that it can be retrieved and displayed anytime even after restarting the computer system or program.

->Done using Serialization and stored in .txt files in bytes format.

Perform following business operations: -

Display all the orders placed by a customer sorted by order date. (The most recent first)

-> Done using sorting arraylist of type object.

- Label order as large order based on total number of quantities greater than or equal to 100. [Hint: Comparable/Comparator]

->Done using adding static method in orderItems class using CompareTo.