**CS4097D : Object Oriented Programming Laboratory**

**Assignment questions**

**ADVANCED QUESTIONS**

1. Write a Java program to illustrate multiple catch block.
2. Create a Class Student with attribute name,rollno,internal\_mark,external\_mark and assignment\_mark.

**Input**: The input is given in single line with tab spaces in between the attributes

Check for input format and handle all those error conditions through exception. Besides that create new exception classes that can handle when the marks entered are negative and those which checks for bounds of the marks entered. The maximum marks for internal\_marks is 15 , external\_mark is 50 and assignment\_mark is 25

**Output:** Print the exception messages according to the error conditions arises in the input. Make use of multiple catch blocks. ‘throw’ keyword can be utilised for explicitly throwing created exceptions

1. Implement a simple inventory management system. The system manages the storage of

inventory and the generation of invoices for sale. The storage of inventory deals with adding, modifying the inventory stock details. Each Inventory Item contains information regarding the inventoryID, inventoryName, Available Units, unitPrice and rateCalculator. The rateCalculator provides information regarding whether the inventory item is provided at the usual rate or at an offer rate which is an instance of RateCalculator. The RateCalculator is an abstract class/interface which provides an abstract method named calculateRate which is intended for returning the current price (if the inventory is provided in offer, then *currentPrice = (actualPrice (actualPrice\*offerRate))*, otherwise *currentPrice = actualPrice*). The RateCalculator is extended/implemented by UsualRateCalculator and OfferPriceCalculator which implements the above mentioned characteristic.

The invoice generation deals with adding together the purchase details which is represented through InvoiceItem instance and finally generating the invoice by listing all the InvoiceItem purchased together with the final amount of purchase. Each InvoiceItem

contains the InventoryItem and the numberOfQuantity purchased by the customer. During invoice generation, it finally asks whether the customer is a privileged customer or not. If it is a privileged customer, then an extra 10% offer is given on the total amount. This information is also provided on the final invoice generated.

**Input/Output:**

**Input:1**

1 Inventory Management

2 Invoice Generation

3 Exit

Enter you choice: 1

1 Add New Item

2 Display Item

3 Exit

Enter you choice: 1

Inventory Id: 123

Inventory Nam: Parle Biscuits

Available Units: 10

Unit Price: 10

Offerrate: 0

New Inventory Added!!

1 Add New Item

2 Display Item

3 Exit

Enter you choice: 1

Inventory Id: 124

Inventory Nam: KitKat Chocolate

Available Units: 20Unit Price: 10

Offerrate: 2

New Inventory Added!!

1 Add New Item

2 Display Item

3 Exit

Enter you choice: 2

ItemId

Item Name

123

Parle Biscuits

124

KitKat Chocolate

Available Units

10

20

Unit Price

10

10

1 Add New Item

2 Display Item

3 Exit

Enter your choice: 3