Faculty of Engineering, University of Jaffna

Department of Computer Engineering

EC5080: Software Construction

Assignment 03

(Laboratory assignment- 3 Hours)

Task 01 (2 hours):

Description: In this assignment you are expected to develop a java program to create variety of rooms in a hotel.

The given code consists of one Java interface:

RoomInterface.java: This represents how should be a room and its feature.

The given code consists of three Java classes:

Room.java: This represents how should be a room and its feature. It implements the methods which has RoomInterface.

SmallRoom.java: This represents room feature that is inherited from Room.

CreateRoom.java: This one for creating rooms.

You are required to get familiar with the given code and extend the application to satisfy the functionalities below.

Room.java: Extend the functionality (should be implemented which has RoomInterface) by adding features as you wish. Include a method toString() which can be used in other classes to print the features of the room types(small/medium).

MediumRoom.java: Write a java class for medium size rooms. This must be inherited from Room. Add any features that should represent only the MediumRoom.

CreateRoom.java: Create and explain any three or more types of objects and their usage by printing the features.

Task 02 (1 hour):

```
public class Accounts
{
	private double balance;
	private int accountNumber;
	public Account( double initialBalance, int accountNumber )
	{
		if ( initialBalance > 0.0 )
			balance = initialBalance;
	}
	public void credit( double amount )
	{
		balance = balance + amount;
	}
	public void withdraw(double amount)
	{
		balance = balance - amount;
	}
	public double getBalance()
	{
		return balance;
	}
	public int getAccountNumber()
	{
		return this.accountNumber;
	}
```

public static void main(String[] args)throws .....,..... {

}

For the given Accounts class implement the following,

1. Create a custom exception class by inheriting the Exception class to check if a negative amount is credited.
2. Create a custom exception class by inheriting the Exception class to check whether there is insufficient balance when withdrawing.
3. In the withdraw and credit methods check the amount with the balance and negative amount considering the appropriate custom exceptions you have created. (Write the correct try catch and throws the appropriate custom exception)
4. In your main methods throw both exceptions. Test the two exceptions with proper inputs and include the outputs as comments in the main method under each test.

You will be tested for the correct use of Java keywords and good programming practices. Your assumptions and explanations could be in the form of comments in needed files. Please upload the folder with the Java files by naming it with your registration number.