

Software Analysis and Design (CS:3004)

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Assignment 2

Task1: Draw ECB pattern with help of class Analysis stereotypes. Also generate java code

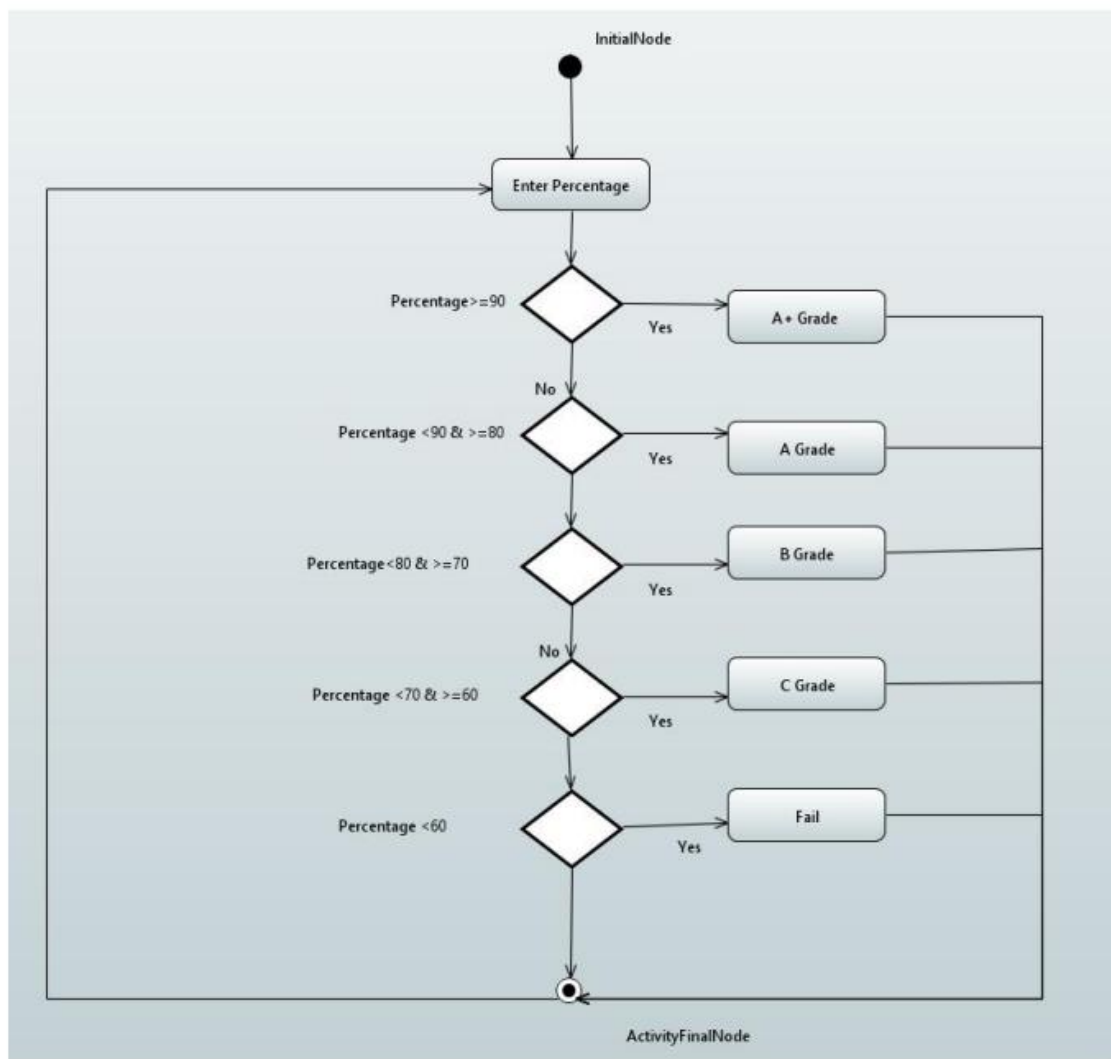
Twitter is an American microblogging and social networking service on which users post and interact with messages known as "tweets". Registered users can post, like and retweet tweets, but unregistered users can only read them. Users access Twitter through its website interface or its mobile-device application software ("app"). Currently researchers are working on the classification of tweets and sentiment analysis, a system is proposed for the sentiment analysis of movie reviews tweets. Sentiment Analysis is an approach to classify the sentiments of user reviews, documents etc based on positive (good), negative (bad) or neutral (surprise). However, most of the sentiment analysis approaches today provide an overall polarity of the text. But it is desirable to understand the sentiment of each aspect of different entities for deep grained analysis. The proposed system is based on Machine learning using python API. The system asks the user for the twitter account whose tweets are going to be analysed. The twitter API is used for the data collection and pre-processing. The collected data is stored in a database for pre-processing. The data pre-processing involves cleaning and simplifying the data performing spell correction, punctuation handling, stemming etc. Pre-processed data is stored in the database then data is trained by training set. The classification algorithm is applied on the trained data using Machine Learning classifier in order to categorize them, it generates the classification output and results are displayed to the user containing sentiments graphs using pie charts.

Task2: Create a Class Diagram (in UML) based on the following scenario and generate the JAVA code also.

Reader's Choice Book House is a group of publications founded in 1990s with a dream to give quality education and up-to-date knowledge to the generations nationally and globally. RCBH has a vision to improve the literacy rate in Pakistan through its diverse range of publications. website: <http://www.rcbh.com/> Address: Karachi, Pakistan They have a publisher named 'Karams Publications' in Karachi who publishes various types of books on regular intervals. Karams Publications is known for publishing books with two major types of publication and they need an inventory management system which can help them get information about every book in their stock. Two major types of books which the publisher uses are: Paperback Hardcover The publisher requires to have a unique ID which is assigned to each book, along with that they need some common attributes among all them like page count, author and category of book to characterize every book in their database. Every book in our inventory management system should have a price attribute which can be set by the publisher at any point of time and also a way to get the price of that specific book. A book will also need custom titles/name which can be set to distinguish them from every book in the database. The specific books published by the Karams publications include Compilation

and Sweeping Epic published in both of the types mentioned above. Each book have a unique ID number and page count. The functions of compilation type are setPrice and setTitles and the function of Sweeping Epic is setPrice.

Task3:Write a java code for the following activity diagram



Task4:Draw an activity diagram for the following Java code.

```

import java.util.Scanner;

public class BankAccountTask {

    static Scanner input = new Scanner(System.in);

    public static double availableBalance= 0.0;

    // Show selection options

    public static void showSelection(){

        System.out.println("1. Withdraw amount");

        System.out.println("2. Deposit amount");

        // take input from user

        int selection = input.nextInt();

        if(selection == 1) {

            withdrawAmount();

        }else if(selection == 2){

            depositAmount();

        }

    }

    // withdraw amount

    public static void withdrawAmount() {

        System.out.println("Please enter amount: ");

        double inputAmount = input.nextDouble();

        if(inputAmount > 0 && inputAmount < availableBalance) {

            availableBalance = availableBalance - inputAmount;

            System.out.println("Successful withdraw!!!");

            System.out.println("Your curent amount is "+availableBalance);

        } else if(inputAmount > availableBalance) {

            System.out.println("Sorry! you don't have enough balance");

        }

        System.out.println("1. Main menu");
    }
}

```

```

        System.out.println("0. Exit");

        int selection = input.nextInt();

        if(selection == 1){
            showSelection(); }

        else { System.exit(0);
            } }

// deposit amount
public static void depositAmount() {
    System.out.println("Please enter amount ");

    int inputAmount = input.nextInt();

    if(inputAmount > 0) {
        System.out.println("Amount successfully deposited!!!");
        availableBalance = availableBalance + inputAmount;
        System.out.println("Your curent amount is "+availableBalance);
    }else {
        System.out.println("Invalid amount!");
    }

    System.out.println("1. Main menu");
    System.out.println("0. Exit");

    int selection = input.nextInt();

    if(selection == 1){
        showSelection();
    }else {
        System.exit(0); } }

public static void main(String args[]) {
    showSelection();

}

}

```