Lab 05 Tasks

Task no. 01

Draw ECB pattern with help of class Analysis stereotypes.

Cloud computing is gaining popularity among mid-size and small business, enabling many businesses to access to application software over high-speed internet connection without the need for investing in computer software and hardware. Cloud technology is a new buzz in the market, when it was arrived it was not clear how its implication will affect the business world. Most prevalent is its popularity in the customer service space.

Cloud computing has potential ability to change how business operates, besides saving time and money. **Cloud computing** is the on-demand availability of computer system resources, especially data storage (cloud storage) and computing power, without direct active management by the user. There are three people involved in this system Developer, Administrator and Consumer.

One of the subsidiaries of Amazon is providing on-demand cloud computing platforms known as Amazon Web Services (AWS). The development of application to deploy on AWS includes the following activities within the different phases, including Development, Peer Review, QA, Pre-Production and Production.

In the development phase, Developers in the company develop code which is to be deployed on AWS. They use several tools like Github or Jira to progress forward, where they pull down and create local feature branch adding the feature XYZ then develop and create a pull request to merge with the development branch.

In peer review, a group of developers in the company sit together and review each other's code to look for bugs, security flaws and follow the proper Q&A guidelines provided by the company. If any issue is found in the code, it's sent back to development for further analysis and rectification of the issues. If the code gets passed in the peer review process, it is pushed to the production branch of their github repository.

Next comes the Q&A process, in this phase there are dedicated testers in the company who run the code in local environment to look for bugs, security flaws etc which can hamper the consumer/user experience. If any serious flaw is found, it's sent back to development where the code is again analyzed, rectified & peer-reviewed for any issue found in the Q&A.
In Per-production phase, the newly developed code for the company is deployed on production infrastructure. In this environment, changes are rolled out slowly to the users rather than pushing everything at once for all. Only a part of the user base see the changes and this allows the company

to verify their approach.

After the pre-production phase, if there are no issues found, the code is auto deployed by the AWS infrastructure to production phase. In this, the changes roll out to each and every user. Frequent backups/snapshots are created for the database in production to eliminate any weak point in the system. This allows developers to easily roll back from the production environment.

Task no. 02

Draw ECB pattern with help of class Analysis stereotypes.

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.

Task no.3

Google Classroom is a free web service developed by Google for schools that aims to simplify creating, distributing, and grading assignments. The primary purpose of Google Classroom is to streamline the process of sharing files between teachers and students. It is estimated between 40 to 100 million people use Google Classroom.
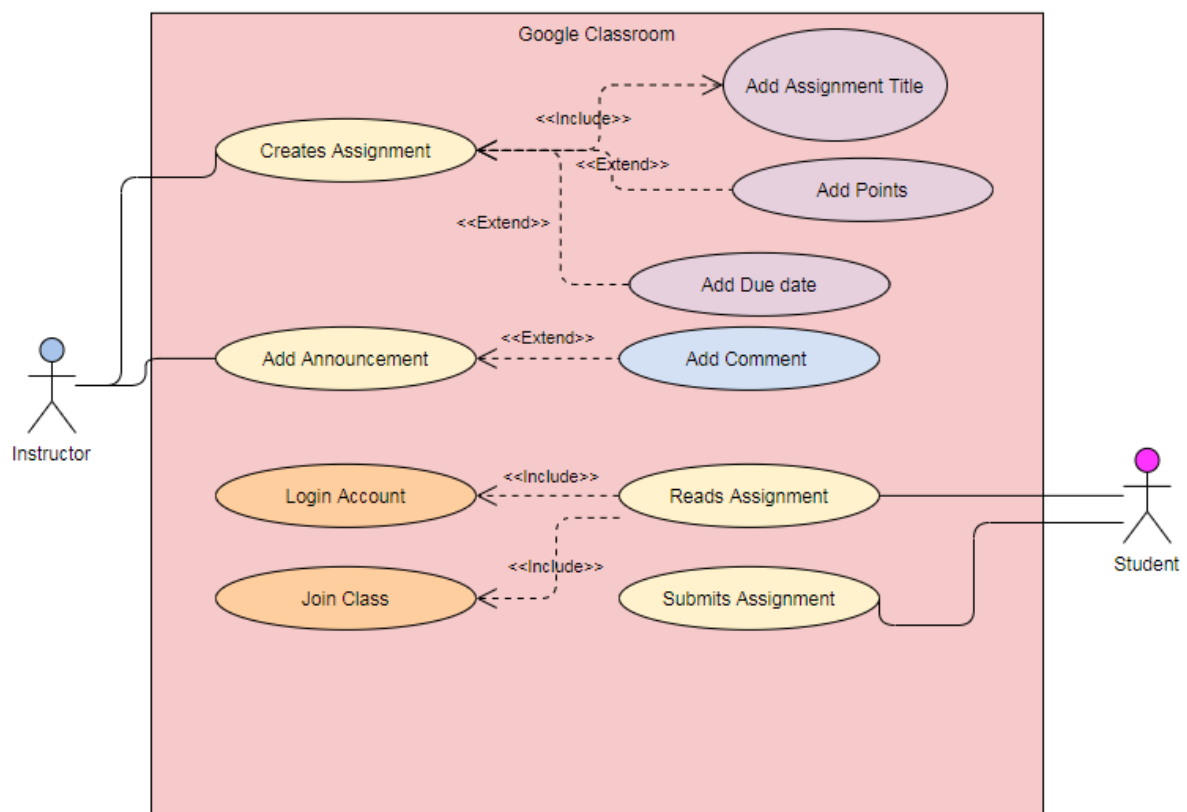
Google Classroom integrates Docs, Sheets, Slides, Gmail, and Calendar into a cohesive platform to manage student and teacher communication. Students can be invited to join a class through a

private code, or automatically imported from a school domain. Teachers can create, distribute and mark assignments all within the Google ecosystem. Each class creates a separate folder in the respective user's Drive, where the student can submit work to be graded by a teacher. Assignments and due dates are added to Google calendar, each assignment can belong to a category (or topic). Teachers can monitor the progress for each student by reviewing revision history of a document, and after being graded, teachers can return work along with comments.

Write the fully dressed use case descriptions of each use case including:

1. Use case Id
2. Use case name
3. Actor
4. Description
5. Precondition
6. Postcondition
7. Normal Flow
8. Alternative flows
9. Exception
10. Include
11. Issue After use case description

Create Robustness diagram also

Task no.4

Create a Robustness diagram of the following Use case template

User Id	USJOB-21
Use Case Name	Apply for Job
Actors	Applicant, System
Description	Applicant applies for software developer job
Precondition	Eligibility criteria is satisfied as posted on the website
Postcondition	System saves the Application form
Normal Flow	1. Applicant visits the Company website 2. Applicant navigates to the Career option 3. The System displays the current job applications with criteria and deadlines 4. Applicant fills the job application form, attaching all the documents required 5. Applicant clicks on the apply button to send the form 6. System saves the application form and acknowledges to the applicant with a pop-up window, Application submitted 7. System displays the application form submitted by the applicant
Alternative Flow	N/A
Exception	1. The system cannot save the job application due to overload causing server crash/ database failure 2. User can leave the application incomplete at anytime
Include	
Issue	1. If the application is left in between the data is lost