Level 3 – Application Development   Duration: 3 Hours

General Instructions

1. Read all the questions and understand them clearly before you start writing the program. In case of any doubts, get them clarified with your invigilator.
2. You can write your program using C, CPP or Java
3. The input for the program can be hard coded or read from a file. Command line inputs are not required.
4. Once you arrive at a logic, discuss with your invigilator before proceeding.
5. Programs logic, coding standards, modularity will be considered for evaluation.
6. Your Program should work for various inputs as given by your invigilator and verify the output of the program before showing it to the invigilator.
7. Take one task at a time and show the output case by case. The output shown should be well intended and not congested.
8. Create a folder in the desktop with your name followed by department and save the source files there. Ex. folder name Arun_ECE, Geetha_CSE

Simple Mailing Application

Basic Requirements

1. The Mailing Application should allow sign-in & sign-up.

2. Checks should be made for existing mail id.

3. Password Complexity to be ensured.

4. Only '_','.' are permitted in Mail-id.

5. The Domain for mail id is **zsma.in**

Task 1 : Menu upon Successful login

Upon login, the user should be able to view a Summary as shown below.

Welcome TestUser@zsma.in

Your mail summary is :
　　　　Inbox -> 0 mails
　　　　Failed Mails -> 0 mails
　　　　Sent -> 0 mails
　　　　Trash -> 0 mails

Task 2 : Actions for User

The User can perform the below Actions

　　　1. Composing a Mail
　　　2. Viewing a Mail
　　　3. Trash a Mail
　　　4. Signout from the mailing application.
　　　5. Account Deletion
　　　6. Password Mgmt.

Task 3 : Password Complexity

    The below Password Complexity is required

    2 Upper case characters
    2 Lower case characters
    2 Numbers

Task 4 : Account Deletion

    An User account can be deleted, prompt for Password before deletion.

Task 5 : Reading a Mail

    The User should be able to read the mail by specifying the Subject of the Mail.

Task 6 : Composing a Mail

    User should be able to mail to Other users. If an Invalid address is specified, the mail should be moved to "Failed mails". Attachments and Font formatting can be ignored. Replying / Forwarding a Mail is not required.

Task 7 : Trash a Mail

User should be able to Trash a mail (Perform Trash by specifying Mail Subject). Inbox should not show Trashed mails.

Task 8 : Sent Mails

User should be able to view Sent mails.

Task 9 : Filtration by mail-id

User should be able to Filter Inbox and Sent mails by mail-id. Also User should be able to perform Text Search across mails.

==Note :== Trashed mails need not be included in Search Functionality.

Task 10 : Persistence of Database

Use Files for Persistence of Mail data and user data.

Task 11 : Signup & Mail id validation

Application should allow Sign-up. Only '_' and '.' are allowed in mail-id.

Task 12 : Existing mail-id check

    The Application should validate mail-id prior to Signup and ensure that the mail-id doesn't exists.

View Mail (Sample)

    Mail Subject : Test mail Subject

    From : testaccount1@zsma.in

    To : You

    Mail Content :

        Sample mail content.

    Mail Received Time : December 02, 2021 09:00 PM