**Guidelines for submission of FISAC-1 Assignment**

1. Each group should solve and execute the assigned question.

2. Each member of the group should run the program with different inputs.

3. Upload the copy into the onedrive folder/ MSTeams assignment folder as instructed by your teacher.

3. Last date for uploading the assignment is November 2nd, 2022.

4. The program’s result snapshot  should be attached to the submission file  and uploaded

5. The Submission document should clearly specify the technical contribution of each member of the TEAM . Based on the program and individual contribution the marks will be awarded to each member of the team.

ALSO ,Apart the individual submissions  A SINGLE COPY OF THE SourceCode  (MICROSOFT WORD FORMAT) SHOULD BE UPLOADED BY ANYYONE MEMBER OF THE GROUP.

**Naming Convention to be followed**:

1. File Name for individual scanned copy of handwritten submission:

                 Registration Number-StudentName-GroupNumber

2. FileName for single copy submission of the source code: GroupNUmber is enough.

**Group 1. Attendance management system**

The system is an application that aims to automate the leave application and attendance tracking for an Institute.  The proposed system is a Java project.

* **Administrator  –** provided exclusively  with administrative functions like creating accounts for employees, managing the employees.
* **Employee -** They can log in to their accounts to view their everyday attendance, apply for leave  get feedback from system about the leave status( whether approved or not) , etc.
* **Employer –** The  Employer  can log in to their accounts to grant, cancel and update leave application Also, view the reports about the employee, about the leave details/attendance details.

**Group 2**. Develop an application for hostel management system.  Consider different types of rooms (AC, Non AC, shared, attached), capacity of room, price and allotment criteria. (Create appropriate classes and methods based on requirements), The main features of the  system are:

* Reservation and cancellation of the bookings.
* Automation of  other functions.
* Maintain student/hostel room records and report on the allotment on a periodic basis

**Group 3**. Develop an application for library management system. Provide the functionalities like listing books, search for book, borrowing and returning books. (Create appropriate classes and methods based on requirements), The main features of the  system are:

* Reservation and cancellation of the bookings.
* Automation of  other functions.
* Maintain library transaction records and report on the transaction on a periodic basis

**Group 4. BUS TICKET  Reservation system**

The Roadbus reservations system is an application that aims to automate the ticket booking system. The proposed  reservation system is a Java project. It is an platform that customers can use to book their bus tickets and check their travel details. It is a comprehensive passenger processing system that includes inventory, fares, e-ticket operations, and report generation. The main features of the  reservation system are:

* Reservation and cancellation of the tickets.
* Automation of other system functions.
* Maintain passenger records and report on the daily business transactions.

**Group 5**. **Student Information(SI) management system**

The SI management system is an application that aims to automate the Student management system of an Institute. The proposed system is a Java project.

* **Administrator module –** This module is designed exclusively for managing administrative functions like creating accounts for students and instructors, registration process/admission process, Creation / deletion of programs, Managing the students, fees/finance mgmt, and so on. Basically, this module lays the groundwork for the other two modules.
* **Students module –** This module is designed for the usage of students. They can log in to their accounts to view their coursework,  pay fees , get feedback from admin, etc.
* **Instructor module –** This module is for the instructors who can log in to their accounts and check the student details.

**Group 6 :** Develop a java application for online banking system with necessary functions like withdraw, deposit, opening an account and money transfer etc. Consider all the validations and constraints like minimum balance, availability of money before transfer and so on. (Create appropriate classes and methods based on requirements)

**Group 7:** Develop a java application for online movie ticket booking system (like bookmyshow). (Create appropriate classes and methods based on requirements). Consider the different category of seats (VIP, GOLD and silver), number of seats available, and price. (Create appropriate classes and methods based on requirements).

**Group 8:** Develop a java application for online purchase of an electronics item. Consider the availability of items, price, and discount if any. (Create appropriate classes and methods based on requirements)

**Group 9: D**evelop an application for student life cycle management system. For faculty provide the functionality like add/updating attendance and marks. For students provide functionality like view mark, attendance percentage. (Create appropriate classes and methods based on requirements)

**Group 10:** Write a program to design an interface to post the complaints, categories into academic, resource related or personal, by searching a word related to academics, resource or personal.

**Group 11:** Create a class **Expression** (eg:   a+b+(c-d)\*(f-b)  ), having string data member and validate method. Validate method make use of user-defined stack to validate the expression. Define a **stack** class with **Push(char)  and char pop() methods**. In main create a set of expression objects and validate each object.

**Group 12:** Create a class **DoublyLinkedList** to store each sentence(i.e, each node stores one word) along with insert and delete methods. In main create a set of sentences (i.e array of DoublyLinkedList objects) and check for each sentence is Palindrome are not using user defined stack. User defined stack has push(String) and String pop() methods.

**Group 13:** Create an interface **LinearLinkedList** to keep track of words, with Insert at the beginning and Delete at the end methods.  Each node in the linked list stores one word. Implement a Stack and a Queue classes using above interface’ methods. In main demonstrate Dynamic Method Dispatch mechanisms.

**Group 14:** Create an interface **Stack** with Push(String)  and String pop() methods. Implement a class Linear stack and LinkedListStack and DoublyLinkedList stack using above interface. In main demonstrate the Dynamic Method Dispatch mechanism.

**Group 15:** Create an interface **Queue**  with enqueue(String) and dequeue() methods. Implement a class linear queue, circular queue and LinkedList queue using above interface. In main demonstrate Dynamic Method Dispatch mechanism.