

# **CS3201: OBJECT ORIENTED PROGRAMMING LABORATORY**

*Topic: Exceptions, Revision Exercises, Inline functions*

**Lab: 08**

**Date: 10/05/2024**

## **EXECUTION QUESTIONS**

1. Write a C++ program for a simple calculator that can perform addition, subtraction, multiplication, and division. Implement exception handling to handle the following scenarios:

- Division by zero
- Invalid input (e.g., entering a character instead of a number)
- Overflow (in case of multiplication or addition)

2. Create a class called HotelReservation. HotelReservation should include data members roomNum, roomType (Standard or Deluxe), ratePerDay (200 for Standard and 500 for Deluxe), checkInDate, checkOutDate, and totalCharge. Input relevant details from user. Use overloaded functions to display the total charge based on the number of days and the rate per day. Use function overloading for the following scenario – ask the user if they have any discount coupon. If no, function should calculate charge as such. Else, get the discount rate from the user, pass it to the function and calculate the total.

3. Create a class called Employee with attributes employee ID, name, year of joining and salary. Implement member functions to input and display employee details. Implement a function to increase salary by 8% if they have worked for more than 5 years at the company. Use inheritance to create a derived class called Manager, which includes an additional attribute - department. Override the employee display function to display the department info in addition to other details for managers.