PRASAD V POTLURI SIDDHARTHA INSTITUTE OF TECHNOLOGY,(AUTONOMOUS),KANURU,VIJAYAWADA

B.Tech II year I semester CSE(S2)

Course name : Object Oriented Programming through C++ lab

Week - 08 (06-11-2023) task

1. Write a program to enter five numbers in an integer array. Display the largest number. If the array contains null element, throw the exception.

2. Write a program to enter a string and display it and throw an exception when null character is detected.

3. Consider the student class that contains the following fields

Class : Student
Attributes: int rollno string name int age; double marks;
Methods: calculateAverage() display()

Write a Exception class that generates the exceptions if

1. The age of student is negative then display a message “Invalid Number”
2. The marks are greater than 100 and less than 0 then display a message “Invalid range”.

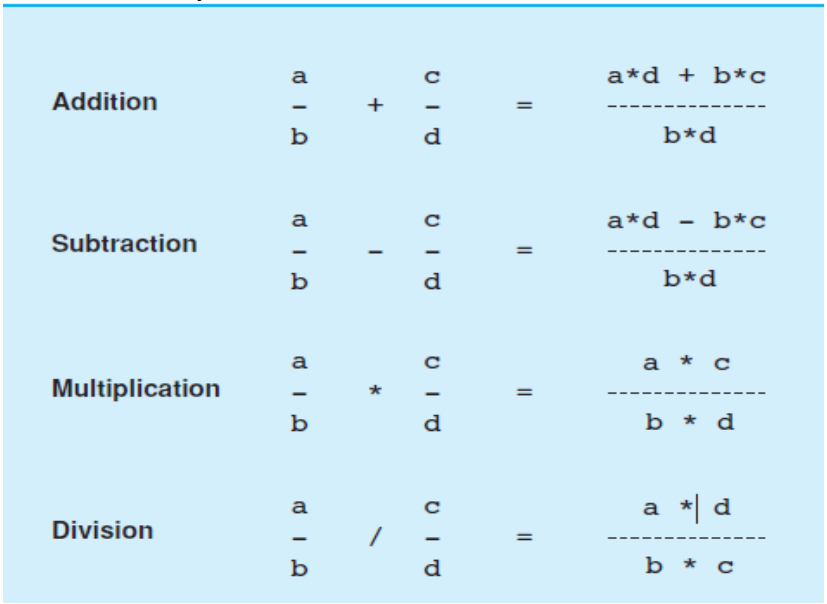
4. Consider the Empolyee class that contains the following fields

Class:Employee
Attributes: int empno; string empname; Date dateOfBirth; Date dateOfJoining; double salary;
Methods: display() findExperience() updateSalary()

Write a Exception class that generates the exceptions

1. If dateOfJoining is earlier than 21 years then display a message “Invalid Entry”
2. If the experience is -ve then display a message “invalid entry”

5. Arithmetic operation with fractions



Develop a class that represents fractions and performs typical arithmetic operations with them.
■ Define the Fraction class with a numerator and a denominator of type long.The constructor has two parameters of type long: the first parameter (numerator) contains the default value 0, and the second parameter (denominator) contains the value 1. Declare operator functions as methods for - (unary), ++ and -- (prefix only), +=, -=, *=, and /=.The operator functions of the binary operators +, -, *, / and the input / output operators <<, >> are to be declared as friend functions of the Fraction class.
■ Implement the constructor for the Fraction class to obtain a positive value for the denominator at all times. If the denominator assumes a value of 0, issue an error message and terminate the program. Then write the operator functions. The formulae for arithmetic operations are shown above.
■ Then write a main function that calls all the operators in the Fraction class as a test application. Output both the operands and the results.