Task for Week 5

NOTE:

- Use your own notation
- Include the exceptions
- Write the complete problem within the comments along with the message of "**Solution to this program is developed by BE ¼ CSE-2 Group-1(Adithi, Aisswarya, Alekya, Chandana and Darshana). This can be viewed or modified by anybody**"
- For each problem at and give your concluding remarks i.e. concepts (like abstraction, encapsulation, default arguments, passing parameters, returning objects, passing objects, ect.) that you have implemented while giving the solution to the problem.
- The groups are: **160114733061-65 (group-1), 66-70(group-2), 71-75(group-3), 76-80(group-4), 81-85(group-5), 86-90(group-6), 91-95(group-7), 96-100(group-8), 101-105(group-9), 106-110(group-10), 111-115(group-11) and 116-120(group-12)**.
- Also identify a team lead among yourself and also mention his/her name saying that Team lead: Mr./Ms. XXXXXXX in comments
- It is the team lead's responsibility to coordinate the group during the discussion and development of the program
- Include proper design, indentation and comments

1. Write a class to implement matrix operations?(addition, subtraction, multiplication and transpose. You will get Bonus points for the following:
    - Inclusion of exception conditions for all those operations, memory efficient code with new and delete operations
    - Implementation of matrix inversion

2. Write a program to implement operations on complex numbers? (addition, subtract, multiplication and division)
3. Define a class to represent a bank account with the following members:
   Data members:
    a) Account number
    b) Account holder name
    c) Account type
    d) Acount balance
   Member functions:
    a) Account should be created with a minimum deposit Rs. 1000/-
    b) Deposit a specified amount
    c) Withdrawal of specified amount

d) Display account balance
e) Display of ccount details

Write a menu driven program to seect any one of those operations.

4. Write a class to represent a vector of integers with the following operations:
   a) To create the vector
   b) To modify the vaue of a given element
   c) To multiply by a scalar value
   d) To display the vector

   Test your program with some sample data
5. Modify the problem 5 for handling 10 customers?

6. Write a class to implement a class “STUDENT” with the following members

   Data members:
   a) Student name
   b) Roll number
   c) Address
   d) Total marks
   e) Percentage
   f) Marks in 6 subjects

   Member functions
   a) Read data
   b) Compute percentage
   c) Display the details of all the students
   d) Display student roll number name and percentage in descending order of percentage
   e) Display class average, highest and lowest marks
   f) Display th first ‘n’ top students

   Write a menu driven program to test all those operations.