



ASSIGNMENT #1(Spring-2024)
(Object Oriented Programming)
First year(2nd Semester)
Software Engineering Department
NED University of Engineering and Technology

CLO:2

Submission Date:10th June,24

Question #1

Implement a class ComboLock that works like the combination lock in a gym locker, as shown here. The lock is constructed with a combination—of three numbers between 0 and 39. The reset method resets the dial so that it points to 0. The turnLeft and turnRight methods turn the dial by a given number of ticks to the left or right. The open method attempts to open the lock. The lock opens if the user first turns it right to the first number in the combination, then left to the second, and then right to the third.

```
class ComboLock :  
    ComboLock( int secret1, int secret2, int, secret3)  
    void reset() ;  
    void turnLeft(ticks) ;  
    ...  
    void turnRight( ticks) ;  
    ...  
    bool open() ;
```

Question #2

Write a program in C++ that implements a simple e-library management system. The program should provide a menu which allows the user to do the following:

- a. Add A New Book
- b. Edit Details of an Available Book
- c. Delete A Book
- d. Display All Books in the Library

The book class contains the following attributes:

- Publication ID (This is unique, you must use this variable for searching purposes)
- Book Title
- Author(s)
- List of Patron Subscribers

The program should prevent addition of duplicate books entries using the unique publication id. The program should be implemented using character arrays only, (**Using string is prohibited**). Additionally, you should consider using OOP concepts such as classes or structs, default or parameterized and copy constructors in your program.