

The assignment follows a similar approach as practised in the lab sessions. The program executes some tests [test 1-5] which should fail on providing the missing contracts. The assignment requires addition of contracts to the class "Library". The comments in the class definition provide information about the methods and data structure.

Please feel free to use the protected methods as helper functions to write contracts. We may not add contracts to these functions. We may assume that none of the parameters are null or empty for this assignment.

The contracts should enforce some basic constraints as mentioned below:

1. Duplicate members or copies of book with duplicate IDs must not be added.
2. Only members can borrow available books.
3. A member cannot borrow multiple copies of the same book.
4. Number of available copies of any book must not be less than 1 (i.e. the library must have at least one copy of each book available at all times say for the reading room) and the total number of copies of a book should not exceed the number of members. This property must satisfy at all times.
5. The methods must ensure their objectives are met.

To run the tests, please use the "testrun" script from command line from its directory as ".\testrun.bat <number>". If <number> is 1 to 5, it will run the specific test and the number 0 will run all tests. For example if you extracted the contents of the folder to directory "ITI0130_Lab7_assignment_cofoja" and want to run test 4, then use the commands:

```
> cd <path-to-ITI0130_Lab7_assignment_cofoja>
> .\testrun.bat 4
```

In Linux, please use "sh ./testrun.sh 4" instead of ".\testrun.bat". Initially all test should pass, with no exceptions. We need to add contracts to fail the tests.