One Hour Lab Exam

Instructions ! (Answer two tasks from below)

Submit within the lab class.

Submission format : compress the .java source files in a single zipped file

Zipped file name format : any_name.zip

All of **you must attend a viva** on your solution after **the submission**.

Task 1 (Odd Numbered PC)

Write a program that asks for user's name and then writes it back with the first name as entered, and the second name all in capital letters. Assume that there are two names, and that they are separated by a single space character.

```
C:\>java NameEcho
Enter your name: Sherlock Holmes
Sherlock HOLMES
C:\>
```

Look at the API documentation of the String class and use these methods:

- int indexOf(String target)
- String substring(int startindex)
- String concat(String str) — or use the + operator
- String toUpperCase()

The program could be improved by testing if there were indeed more than one name. (Test that the value returned from indexOf() is greater than zero.) If not, merely echo the input.

Task 2 - (Even Numbered PC)

Write a program where the user enters a string, and the program echos it to the monitor with one character per line:

```
Enter a string:
Octopus

O
c
t
o
p
u
s
```

To do this you will need to use the following method from class String :

```
char charAt( int inx )
```

This method returns the character that is at index inx of the String. Characters are indexed beginning at index 0.

Task 3 - (Odd Numbered PC)

Rectangle
-x:int
-y:int
+setX(int):void
+setY(int):void
+getY():int
+getX():int
+showArea():void
+getArea():double

In MAIN Method

1. Create an object of Rectangle class, setting some required data for a rectangle
2. Output the area of the rectangle
3. In main, decide whether x and y of the rectangle are equal or not and output accordingly

Write the above mentioned Rectangle and the Main class.

Task 4 - (Even Numbered PC)

Create a class named **Course**. That will have some member variables like: courseName, credit, typeOfCourse. Course class will have the proper set, get methods and a method that will output as shown below. Also implement two constructors in that class.

Now another class will hold the main() method. Sample output by the main() is as follows :

Sample output :
Economics with credit 3.0 is a THEORY course
PHYSICS1 Lab with credit 1.0 is a LAB course

Pseudocode for Main method:

```
Main(){
        Course c=new Course("Economics", 3.0, "Theory");
        Course c=new Course("Physics1", 1.0, "Lab");
        c.show();
        c2.show();
}
```