Lab 3 - Introduction to Data Structures   **Name:**

This lab is about creating your own class (Abstract Data Type)

1. Create a person class (Person.java)

2. It should contain three member variables describing the Person

- String : <u>firstName</u> , <u>lastName</u> and Date: <u>dob</u>   (This will use the provided Date Class. So keep the Date Class file in the same directory as your java file)

3. Your class should define two constructors

- null constructor that will create a person with default values (firstName : AAAA, lastName : BBBB, dob : new Date())   **Person()**
- constructor which should take in three variables (first, large, dob) and create a person with these values. **Person(String first, String last, Date dob)**

4. Getters for each of the three member variables which describe the person

- **getters/accessors : getDOB() , getFirst() , getLast()**

5. getAge() : This is public method which calculates the Person's current Age

6. changeLastName(String s) : This is a public method which changes the person's lastName

7. Override the methods compareTo , equals , clone and toString.

- compareTo: should be used to compare the person's based on their age (use getAge() method to calculate differences in age)
- equals : should compare dob, firstName and lastName
- clone : should make an exact copy using all the three variables which define the person
- toString : returns the complete information as a String in the format ("Firstname:" + firstName + " LastName : "+ lastName + " DateOfBirth: "+ dob)

8. A method printPerson() which prints the complete information about the Person

I will test your "Person.java" file with my own program that will use your class. It will create new people, clone people, invoke the defined and overridden methods on the people created. Be sure to name the methods defined with the same names as they are detailed above.

THINGS TO SUBMIT

1. **Person.java**