Practical Lab Session: Week 2

For this practical lab session, please first ensure you have viewed the **Week 2** video sessions **2.1, 2.2** and **2.3**. Within these sessions, you should attempt the development exercises presented as **Challenges** during this lab session. Please ensure you complete the set of challenges prior to the next lab session and upload screenshots of your results to the Progress Management section on Blackboard as directed.

Session 2.1 Challenge: Lions and Animals

- In your **Animal** project, implement a sub-class of `Animal` called `Lion` and give it the instance variables and methods as described in the **Challenge 2.1** specification available on Blackboard.
- Create the test application class `TestAnimal` as directed, and implement the following
- Create two `Lion` objects called `myLion1` and `myLion2`. Initialise the properties required with values of your own choice
- Make a call to an appropriate method to set the `age` of `myLion1` to 3.
- Print out the details of `myLion1` using the `toString()` method and the number of Lions created using the `numberOfLions()` method.

Note: an example of the output from the program is provided in the video session.

Session 2.3 Challenge: Longest Common Sequence

Note: Please see the separate file "Challenge 2.3" for a full description of this activity.

- In the application created in this exercise, two strings of characters will be taken as input and the longest subsequence of characters common to both strings will be determined. We want to find the longest sequence of letters that is common between two strings.
- For one string to be a subsequence of the other, all letters in the first string must match up uniquely with a letter in the second string.
- The matches have to be in the same order, but they do not need to be consecutive. For example, "WBCAX" is a subsequence of "ZWABCEFAABX"

Note: an example of the output from the program is provided in the video session.