CS211 Lab 2

RECURSION

Write a **recursive** program which takes in the loan that needs to be paid off (e.g. €250,000), the annual interest rate (e.g. 3%) and the monthly loan repayment (e.g. €1,600) and calculates how long the loan will take to pay off.

The recursive method will have 3 parameters – the base case is when it has all been paid off!

A student can only pass a course so long as they meet the following lab attendance criteria:

- They missed fewer than 2 labs
- They were never late for 3 consecutive labs

Demonstrators record a string representing a student's track record – 'A' for absent, 'L' for late, 'P' for present

Write a **recursive** program that takes in one of these strings and outputs whether the student should fail or not. If you can't think of how to do it recursively then just do it in any way!

Example 1:

Input: **PPALLP**

Output: PASS

Explanation: The student has fewer than 2 absences and was never late for 3 or more consecutive labs

Example 2:

Input: **PPALLLPPPPPPP**

Output: FAIL

Explanation: The student was late 3 for consecutive labs

PEN AND PAPER EXERCISE

Show using pen and paper how the following numbers would be sorted by merge sort:

49 68 19 40 48 89 95 10