IFM01B1 | IFM1B10
INFORMATICS 1B

Practical Assignment P02
Due: 29 July 2022, 09:00 SAST

New Competencies Checklist (Your Practical Should Demonstrate the Following):

- ☐ Recursion

INSTRUCTIONS

- Name your project S[StudentNumber]_P01 (e.g. S202200001_P01)
- At the top of your form, copy and paste the following comment (completed with relevant information)

```
' ********************************************************************************
' Surname, Initials:
' Student Number:
' Practical: P01
' Class name: (right now, this is the name of the form you are working on)
' ********************************************************************************
```

Complete either Problem 1 or 2

Note that you will also now be getting a group project to complete. It is suggested that you speak with the rest of the students in your team to form a group of four students to address the project.

As you should know by now, algorithms done iteratively can also follow a recursive approach. The only reason one applies a particular method is due to the problem.

PROBLEM 1 (Maximum Marks: 30)

For this practical, you must complete a single Visual Basic application that will consider the following calculation:

- 11 + 22 + 33 + 44 + ... + 275
- Have one button that will calculate the above using an iterative approach.
- Have another button that will calculate the above using a recursive approach.

MARKSHEET

	Criteria	Marks
1	Multiplier: Design (Not done: 0; Full design: 1; For every missing design element -.1)	
2	Iterative Solution	5
3	Recursive Solution	10
4	Correct 2 (0 or 5 – no in between)	5
5	Correct 3	10
	Total	30

PROBLEM 2 (Maximum Marks 100 (but total out of 30)) – No Assistance Offered

For this practical, you must complete a single Visual Basic application that will allow a user to:

- Initialise an array to a user-specified size
- Input double values into this array
- Display these values in a UJGrid control
- Have one button that will find the maximum in the array using an iterative approach.
- Have another button that will find the maximum in same array using a recursive approach.

You must be able to answer questions showing you fully understand your own code to get these marks.

MARKSHEET

	Criteria	Marks
1	Multiplier: Design (Not done: 0; Full design: 1; For every missing design element -.1)	
2	Initialisation, Input, Display	20
3	Iterative Solution	10
4	Recursive Solution	20
5	Correct 2 & 3 (0 or 30 – no in between)	30
6	Correct 4	20
	Total	100