



**University of Johannesburg**

**Academy of Computer Science & Software Engineering**

**IFM01B1: Introduction to Data Structures (VB)**

**Practical Assignment 06 (Due: 26 August 2022 @ 09h00)**

### Programming Instructions

Copy and paste the following text at the beginning of each class you create and fill in the relevant details:

\*\*\*\*\*

' Surname, Initials:

' Student Number:

' Practical: P06

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### Question

You have been working with classes for a few weeks now. Now you will need to prove that you understand Classes and related concepts. You have the freedom to create your own practical implementation that demonstrates the following concepts:

- Abstract Class
- Composition
- Inheritance
- Constructor overloading
- Function overloading and overriding and extension

Your freedom of choice needs to fall within one of the following topic:

- Sustainability goals
- Student Entertainment
- Online Entertainment

You will need to present your implementation to your assistant before they mark you.  
(PowerPoint Slide – to be uploaded with your code)

**Please note that your implementation and presentation should be PG13 at the most.**

**Note that your program should adhere to both encapsulation, abstraction, and modular principles.**

Marksheet	
Design *	10
UML Class Diagram *	10
Form look and feel	10
Definition of Class (includes attributes and relevant method(s))	50
Use of Abstraction	10
Use of Composition	10
Use of Inheritance	10
Use of Constructor overloading	10
Use of function overloading/overriding/extension	20
Use of Class (initialization and Instantiation)	20
Use of Class (calculations and display)	10
Correct	170
Presentation	10
Total	350

\* A full design and UML Class Diagram must be completed, or the project will not be marked