



University of Johannesburg

Academy of Computer Science & Software Engineering

IFM01B1: Introduction to Data Structures (VB)

Practical Assignment 05 (Due: 19 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: P05

Question

You have been asked to help a small mall owner with his business by creating a application that will help him manage the uniqueness of each one of the shops in his mini mall. The mall has a few rules to ensure that the owner can keep track of what is being sold in his mall and how much is being charged.

Each shop has to have the following information

- Shop Name (given by the user)
- Shop number (which is a value that increases with each new shop. It is currently on 543)
- Contact person
- Contact details (telephone number)
- Contact details (email)
- An array of sellable items

Each item in the list has the following information

- Name
- Category
- Price

The shop owner would like to be able to view a list of the shop he has available and to view the item for any particular shop in question. You should at all times show the average cost of an item across all store and for a particular store when a store is being viewed.

You will be to make sure that no item is for free or has a negative value.

Bonus marks will be awarded for the following

- Each shop has a dynamic array for items (of various sizes in the program)
- The telephone is validated (+27 ## ### #####) or (### ### #####)
- UI

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 Class (initialization and Instantiation) | 20 |
| Use of Class (calculations and display) | 10 |
| Correct | 80 |
| Programming Style (commenting of code, readability of code) | 10 |
| Total | 200 |

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