



**University of Johannesburg**  
**Academy of Computer Science & Software Engineering**  
**IFM2A10: Informatics 2A – Database Design**  
**Practical Assignment 1 (Due: 16 February 2016 @ 12h30)**

## Assignment

*Casa Dois*, is a tech incubator that owns multiple start-up companies that produce apps, and is always in the market to acquire new (unicorn) companies that have a potential to disrupt the technology industry.

*Casa Dois* would like you to help them keep track of all of the start-up companies that they have acquired by developing a desktop application that will keep track of all information to do with these companies. All information must be stored in a set of (random/sequential) files.

1. The following information must be collected on each company *Casa Dois* owns:
  - Name of Company
  - Valuation (in Millions of U.S. dollars)
  - Sector of operation
  - Number of Employees
  - Founder(s) of the company (**See point 2**)
  - Products sold by the company (**See point 3**)
2. The following information must be saved on the founder(s) of each company has:
  - Full Name
  - Age
  - Highest Academic Qualification
3. The following information must be saved on each app developed by the company:
  - Description of App
  - Price of Using App
  - Number of Downloads

Apart from collecting and storing all the information described above, the application still needs to have the following functionality:

- a) Display a list of all companies owned by *Casa Dois* (saved in the file) on one screen/window.
  - The list must be read from the file.
- b) Search for a company from the list of all companies owned by *Casa Dois*.
- c) Determine which company has the youngest founder.
- d) Determine the combined value of all companies owned by *Casa Dois*.
- e) Determine the highest priced app for each company owned by *Casa Dois*.

## Instructions

- This solution must be implemented in either Visual Basic, C++ or C#.
- You must use classes or record structures to store data.
- All information must be saved to a file and be readable from that same file. The file can be either Random Access or Sequential.
- You may not make use of any DBMS system to store data.
- You must be able to calculate and display any of the statistics/information at any time.
- Submission details are outlined in the General Undergraduate Learning Guide. Please ensure that the submission complies with the instructions therein.

## Mark Allocation

<b>Classes or Record Structures</b>	
• Definition	15
• Implementation	15
<b>Random Access or Sequential Files</b>	
• Saving	10
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<b>View Data</b>	
• List of all company information saved in the file	10
<b>Calculation</b>	
• Determine which company has the youngest founder	10
• Search for a company from the list of all companies owned by <i>Casa Dois</i>	10
• Determine the combined value of all companies owned by <i>Casa Dois</i>	10
• Determine the highest priced app for each company owned by <i>Casa Dois</i>	10
<b>Total</b>	<b>100</b>
<b>Bonus</b>	
• Any noteworthy extras. [Max 10]	
<b>Penalties</b>	
• Late submission [0%]	
• Does not compile [-50%]	