**SCHOOL OF COMPUTING (SOC)**

**IT8701 Introduction to Programming for Data Science**

**Self Reflection (CA1)**

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| **Instructions:**   1. Submit this at Polymall “Assignments->CA1->Self-Reflection” folder 2. Name your file “YourModuleLecturerName-YourStudentID-YourName.docx” |

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| **Your Lecturer’s Name** | Ms Junie Tan |
| **Your Name** | Zheng Yimin |
| **Your Student ID** | P7053148 |
| **Your Class** | NSDAI/01 |

# QUESTION 1: CHALLENGES - SELF-REFLECTION FOR CA1

Provide a brief reflection of the challenges you have faced in this assignment.

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| I felt that overall this assignment was challenging as I had no background in programming and hence, it was difficult for me to identify the codes I will need to input in order to generate the charts. I also felt that some of the codes I have used could be further simplified, but I did not really have much clue on how I could do so. Perhaps more exposure to programming and knowing the right terms to google would have be useful in this case.  In addition, some of the datasets came with peculiar/missing values, which meant that I will need to include extra steps to ensure that such values are omitted from the dataset, in order to not affect the final results.  Also, some of the datasets provided in this assignment were relatively brief, and hence not much insights could be derived from the results of the charts. |

# QUESTION 2: ACHIEVEMENTS - SELF-REFLECTION FOR CA1

Provide a brief reflection of what you think you have personally achieved in this assignment or the knolwedge or skills you have found satisfaction in learning / acquiring.

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| Personally I felt rather accomplished being able to complete this assignment, with no background in programming. I thought I would not have been able to done it as it really looks very challenging and it was nothing like my past school assignments. I definitely could feel there was an improvement in my knowledge of python, especially in NumPy and matplotlib libraries. It was satisfying knowing how to apply these functions and I felt that NumPy could possibly be something I might be able to apply in my work as well, since my work requires extraction and filtering of large datasets.  I look forward to learning new functions such as Pandas throughout this course. |

# QUESTION 3: SELF-EVALUATION

Grade yourself using the marking rubrics below.

### **How well did I meet the BASIC assignment requirements?**

For each criteria, place a tick ☑ in the column that best matches what you have done for the assignment.

State the evidence in the “Evidence” so that your lecturer can verify, otherwise you will be asked to show evidence during your assignment interview

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| Criteria | **Fully met** | **Partially met (at least 50%)** | **Below requirements** | **Evidence** |
| My CA1 submission uses at least 3 different datasets from HDB at data.gov.sg | ☑ |  |  | * 4 datasets were used in this assignment |
| My CA1 submission included ALL the 4 compulsory charts | ☑ |  |  | * In total 7 charts were generated in the assignment |
| My CA1 submission purely used the Numpy library in my Python codes to perform data manipulation only (i.e. I did not resort to easier ways to achieve the requirements using other libraries such as pandas etc) | ☑ |  |  | * Only NumPy and matplotlib was used, as well as basic functions such as list and etc, which was taught in chapter 1 of this course |
| My CA1 submission purely used the Matplotlib library in my Python codes to perform data visualization only (i.e. I did not resort to easier ways to achieve the requirements using other libraries such as seaborn, pygal etc) | ☑ |  |  |  |
| My CA1 submission includes a deck of Powerpoint slides that explain the datasets I used, what was done to process these datasets and summarizes the insights gained from the analysis of the data | ☑ |  |  | * All included in the powerpoint |
| My CA1 submission includes a self-reflection document that outlines my challenges and achievements doing this assignment | ☑ |  |  | * As described in page 1 of this document |

### **How high is the quality of my CA1 assignment?**

For each criteria, place a tick ☑ in the column that best matches what you have done for the assignment.

Justify your answer in the “Evidence” column so that your lecturer can verify, otherwise you will be asked to show evidence during your assignment interview.

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| Criteria | **Above Average** | **Average** | **Below average** | **Evidence** |
| I evaluate the **technical complexity** of my assignment as:  \*A technically complex assignment should include many advanced features that are not taught in the class and are not trivial to code |  | ☑ |  | * Although these libraries were taught in class, it was somewhat more difficult to apply in this assignment as the datasets provided were more complicated |
| I evaluate the **code quality** of my assignment as:  \*An assignment with high code quality often includes high usage of reusable functions, demonstrates code efficiency through use of appropriate language constructs (e.g. for loops) and is well-documented. | ☑ |  |  | * Overall I have tried to apply as much as what was learnt in class and tried to go beyond by googling on how I can better present my codes |
| I evaluate the **user-friendliness** of my assignment as:  \*A user-friendly application is typically one that provides an easy-to-use user interface (UI) that novice users can understand and navigate with ease. For the purpose of CA1, since there is no /limited UI, please evaluate user-friendliness of your assignment as “How organised is your code and how easily and smoothly another person like your lecturer can run the code on his computer” |  | ☑ |  | * I included comments in each step of my codes for better clarity, and also tried to rerun the code a few times to ensure it runs properly |
| I evaluate the **aesthetics** of my assignment as:  \*An assignment which has a high level of aesthetics for this module’s CA1, should show effort by the student to enhance their graphical outputs with attractive and pleasant layouts and color combinations | ☑ |  |  | * I have also included different styles into my charts, such as ‘ggplot’, and also different linestyles/markers for clarity |
| I evaluate the **creativity** of my assignment as:  \*An assignment which demonstrates creativity includes ideas that are novel and not implemented by other students | ☑ |  |  | * I included special charts such as heatmaps, and also barcharts with stacked bars per category |

### **How in-depth and insightful is my data analysis?**

For each criteria, place a tick ☑ in the column that best matches what you have done for the assignment.

Justify your answer in the “Evidence” column so that your lecturer can verify, otherwise you will be asked to show evidence during your assignment interview.

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| Criteria | **Above Average** | **Average** | **Below average** | **Evidence** |
| I evaluate the **completeness** of my data analysis as:  \*A data analysis that has a high level of completeness requires the analyst to perform a lot of drilling-in/ cross-analysis of the data. If you think you performed above average here, you should show evidence that you went ‘very deep” in digging out details and made effort to explore related datasets etc |  | ☑ |  | * I made the data easy for users to visualize and in this case, I analysed the data from the viewpoint of a potential flat buyer, to understand the past price trends to facilitate decision making |
| I evaluate the **quality** of my analysis as:  \*A data analysis report that is above average is usually prepared by a student who shows high clarity about the goals he wants to achieve through analysing the data. This includes knowing the specific target audience he wants to present the report to and the insights he wants to derive from the analysis. The analyst is able to present a convincing argument and conclusion to what he sets up to find. If you think your data analysis is of high quality, ask yourself if you are you confident that the target party for your analysis would think your analysis is quite interesting and useful to him/her? |  | ☑ |  | * I think that the quality of my analysis would be useful especially for potential flat buyers to note the different prices and trends of prices, as well as demographics of the residents in general. |

### **How much effort did I put in for my self-reflection?**

For each criteria, place a tick ☑ in the column that best matches what you have done for the assignment.

Justify your answer in the “Evidence” column so that your lecturer can verify, otherwise you will be asked to show evidence during your assignment interview.

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| Criteria | **Above Average** | **Average** | **Below average** | **Evidence** |
| I evaluate the effort that I put in to explain the **challenges** that I faced in this self-reflection assignment as: | ☑ |  |  | * I tried to explain all the challenges faced in details |
| I evaluate the effort that I put in to explain the **achievements** that I faced in this self-reflection assignment as: | ☑ |  |  | * Overall it was a very rewarding assignment my learning experiences are as evaluated in page 1 of this document |

**-- End of Self-Reflection --**