Question 4

Write a reflective report that identifies and discusses what you perceive as the most impactful activity within this course unit, and its contributions to your understanding of an ISYS2001 activity or topic. Additionally, please incorporate all your weekly journal entries as an appendix to this report. The report should be prepared in a Microsoft Word document, which will be submitted via the Turnitin link available on Blackboard.

This reflective report summarizes my journey where I achieved development in my personal growth, I discovered new ways of working on codes more efficiently. I learned a lot from the different activities that has been offered in the course ISYS2001 First of all in the first week itself, I acknowledge about google colaboratory and Github which played an important role in my journey (APPENDIX 1). My first coding in the university began on my second week which was easy for me. We then learned about new operations through activities, and this is when I started to discover new program codes by myself. (APPENDIX 2). In week 6, we had an activity session where we learned about errors and how to deal with them. The most impactful activity was week 3 and week 4, we had activities on defining functions and this was hard at first. Functions helped me a lot to understand how easy we could make a program and how it makes it simpler. This helped me in my journey for ISYS2001 as it helped me to lot in my assignments and I learned to do programming codes more easily. I even faced at issue at first with the functions but after doing some research on the internet, it turned out to be easier (APPENDIX 3). Also, on week 4 we also worked on these functions again but additionally, we used new functions to find directories in a module which helped me for my last assignment also and personally, it was really surprising to see that there are a lot of modules in python and we just have to install it if we want it. (APPENDIX 4)

APPENDIX 1- Week 1

In my first class for the introduction to business programming, I learned about the course and how it can be useful in the workplace. I got a recap on the software and hardware of the computer and learned about the inputs and output devices of a computer and in fact, this is very important as most people do not know how a computer processes, using fetch decode execute cycles. Moreover, we got to know how a computer stores data and how does a program work by using inputs and doing algorithms to get an output by using different algorithms. I was given an activity in class where it was easier to see how to make algorithms more efficient and this also helped me a lot on how i can make programs work in an easier way. I found out that the class was really interesting as I was leaning a lot of new things such as the Boolean expressions algorithm which was new to me, and I immediately tried to understand how it works. We were taught about how compilers and interpreters work and about their differences. Then, we moved on the language that computers understand which consists of 0’s and 1’s. We discussed on how letters can be represented on a computer using an ASCII table. Additionally, we did some conversions from binary to denary which was fun and from denary to binary. Furthermore, we worked on another activity which gave us a useful knowledge on python language. Then we were introduced to GitHub, which is a software where teamwork can be done, and it is one of the biggest communities for writing codes. I think that the class can help me learn a lot of new things which I would be applying in the future as it is a great opportunity to achieve self-knowledge through the teacher and the students.

APPENDIX 2 – Week 2

In week 2, the lecturer did a recap on what we did in our first week such as problem solving, how the computer stores values and syntax to express solutions. We proceeded in a deeper explanation on the pseudocode algorithm which was easy to understand. A small activity on how the marks of student(input) can be used to find the average mark(output). I learned about the data inputs which can be integers, floats, characters and Boolean and the data structures which consist of lists, files where we got some knowledge on how it can be written in python. We discussed about rules and conventions which had to be applied when writing a variable name. Furthermore, we looked at the operations that are used in python and I found out that three of the total operations were new to me which are raise to the power, integer division and modulo. Back in college, we used to work on Visual Basics which is also used for programming and python was a new coding language to me and it was far easier to understand. I learned how a user can input a name using the input function, how to compare variables using the if statement and how indentation should be applied. Moreover, we applied the operation not equal to and not which I was hearing for the first time in a coding language. In the next class, we worked on python where we did a lot of fun activities and the only activity that I faced a problem was the “simple interest” one. It was quite challenging as the language was new to me but however It did not cause a lot of troubles as I did some search about python and how it works, and I immediately found out what the problem was. I was happy to see how it was working and I also tested other inputs to see if its good. I personally think that there is a lot of new things to learn in the class and the python language can be of a great use in the near future.

APPEXDIX 3- Week 3

In our session for week 3, we did a recap on data types, algorithms, and program structures which consisted of built-in functions and user defined function. I learned to make the difference between a variable and a data. The built-in functions included functions that we saw in some of our previous sessions such as the input, integer, length, and the print function. Therefore, during this session I learned about the type function which is used in order to identify the type of a data. Moreover, we acknowledged about importing modules which is used for built-in functions. Furthermore, we had a deep explanation on how to write a user defined function and when to use indentations when writing the function header and body. We discussed about the six things a computer can do and hence we proceeded to calling, using, and creating functions. I have apprehended that when creating using user-defined functions, we should use the keyword “def” which stands for define. On the lab session, I learned how to use functions in python. At first it seemed a bit complicated but with the help of the lecturer and some practices, it was much easier to understand. Therefore, I managed to finish the program in the class itself. As soon as the program was completed, I tested varieties of data to make sure that it works and then moved on to the other questions which became easy. One of the troubles that I faced was importing built-in functions but however with some searches and efforts, I learned how to use it.

APPENDIX 4 – Week 4

For week 4, we started by looking at we have done since week 1 to week 3 which consists of chapters such as algorithms, pseudocode, program structures, data types, variables, and the types of functions to clear all doubts. As soon as it was completed, we moved on to Google Collaboratory which is an integrated development environment where we can write codes. Once there, I leaned a new function which is called except. Our teacher taught us how and when to use it. My mates and I practised on it where we used different numbers to see what answers we were getting. On the next session, I faced a challenge as we leaned a new function which is used to find the directories in a module and doctoring. I worked out my tutorial questions where we used different function such as except, break and creating an audio voice. I was surprised when I actually found out that we could use programming to get voices. Furthermore, we started to talk about how we could use python to open a file, read a file and even to overwrite it by using functions such as read, write and append depending on what actions that we want to be taken.

APPENDIX 5 – Week 5

For me, week 5 is one of the most interesting class as I learned new things and how it could be of a great use. During this week, we did a recap on modules and how to import one and we looked at the ways on how we could import it. I got to know about the 3 ways to import a module on google colab on which I imported a module named math.py which performs addition, subtraction, multiplication, and division. I found it very interesting as there was no user defined function in the program, it was just the import of the module which was working at the back which means that the function did not have to be fully present while we were performing the calculations. I got impressed by this as user defined functions which takes a lot of space can be in another program and yet be used in another one without having to write it. On the second day of the class, I got a better knowledge on files data structures and its operations which are append, open, read and write. We wrote codes on it where we created files and stored data in it. I learned how I could put another data on another line by just putting “\n” and this was new to me as it helped me to create a file and separate names in a set of data. Then, we installed the Margo loader package.

APPENDIX 6- Week 6

In week 6, I learned about the difference between debugging and testing which was very interesting. I watched a video on how testing and debugging can occur in an airplane which caught my attention really well as I made new discoveries and how I can test or debug my programs. Furthermore, we worked on performing the average of two inputs which I tried to work out by myself. I was figuring what could be done in order for the system to count how many inputs there and to divide by the number of inputs. It was a brain teasing activity which I managed to solve. On the next course, we did a recap of the first day and I also got to practice and write algorithms in order to look for errors. I found that fascinating and sometimes errors may not be found so easily. We learnt about breakpoint, which was a bit confusing at first, but it got us compulsive about how it could be useful when writing programs. Furthermore, I got to start my tutorial question where we had to test data which I managed to do before leaving the class. I find that testing data was a good way of knowing what types of errors may exist in a program and to eliminate the error in the program.