**INSY 3001 – Python 2 Project (30 points)**

**Instructions**

1. Create a Python application that handles some basic inventory management for a company. The inventory consists of three products, Product x, Product y, and Product z. The starting level of inventory for each product is 100 units. The program should do the following
   1. Set three variables, x, y, and z, each equal to 100.
   2. Ask the user whether she or he would like to (1) view inventory levels for all products, (2) add inventory to a specific product, (3) reduce inventory for a specific product, or (4) exit the application.
      1. As part of the question, be sure to tell the user what to type to perform the desired task (e.g., ‘1 for view inventory levels’).
   3. If the user chooses to view inventory, the program should display the current inventory levels of all three products. It should also include some accompanying text, such as ‘The inventory level of product x is 100 units.’, etc. Each of the products should be listed on a separate line.
      1. If the user has made any changes to the inventory levels of any products, the view inventory should show the current (updated) levels of inventory for each product.
      2. After the program has successfully displayed the inventory level for all products, it should again ask the user whether she or he would like to view inventory, add inventory, etc. (loop)
   4. If the user chooses to add inventory to a specific product, the program should ask the user what product she or he wants to add inventory to and what amount of inventory to add. The program should then add the desired amount of inventory to the existing level of inventory for that product.
      1. After the program has successfully added the level of inventory, it should display a statement saying it was successful and what the new level of inventory is for that product. (e.g., ‘The new level of inventory for product z is 130 units.’)
      2. The program should again ask the user whether she or he would like to view inventory, add inventory, etc. (loop)
   5. If the user chooses to reduce inventory for a specific product, the program should ask the user what product she or he wants to reduce inventory for and what amount of inventory to reduce. The program should then reduce the desired amount of inventory from the existing level of inventory for that product.
      1. After the program has successfully reduced the level of inventory, it should display a statement saying it was successful and what the new level of inventory is for that product. (e.g., ‘The new level of inventory for product y is 80 units.’)
      2. The program should again ask the user whether she or he would like to view inventory, add inventory, etc. (loop)
   6. If the user chooses to exit the application, the program should display a statement telling the user the program has closed or to have a nice day or whatever. Then, the program should stop running.
   7. The program should continue to loop through the question and correctly update the inventory levels for the products until the user chooses to exit the application.
   8. If the user chooses an incorrect response for any of the prompts, unless the response generates an error, the program should ask the user to choose an appropriate response and then loop through the original prompt again.
   9. Use custom functions for all appropriate tasks (typically any main code or commands that are repeated should be setup in custom functions).
   10. You will need to use at least one while loop and multiple if statements in order for the program to function properly.
2. Don’t work closely with someone else, duplicate or copy what someone does/did, or allow someone else to duplicate or copy what you do/did. You may share ideas and ask and answer questions, but your work must demonstrate independence of thinking and effort, and your project must not be too similar to any other project.
3. Read through the rubric that follows to learn what you need to do to get the score that you want.
4. Submit your Python project file to the Dropbox folder on D2L before 11:59pm on Sunday night (December 2). Be sure to submit the correct Python file and not the output file.

**Rubric**

Level 7 – 30 Points

* Submit a project that performs all the requirements exactly and correctly. The project must loop successfully, and the calculations and display must be correct. The project must use proper custom functions for all appropriate tasks. Do not allow your project to be too similar to any other project.

Level 6 – 27 Points

* Submit a project that performs all the requirements exactly and correctly. The project must loop successfully, and the calculations and display must be correct. The project does not use custom functions for appropriate tasks. Do not allow your project to be too similar to any other project.

Level 5 – 25 Points

* Submit a project that performs all the requirements. The project must loop successfully, but the calculations and display do not need to be correct. The project does not use custom functions for appropriate tasks. Do not allow your project to be too similar to any other project.

Level 4 – 23 Points

* Submit a project that correctly presents the question and completes at least some of the requirements. The project runs, but it doesn’t work properly. The looping does not have to work successfully. Do not allow your project to be too similar to any other project.

Level 3 – 20 Points

* Submit a project that demonstrates attempts to complete all the requirements. The project does not run without errors or is only able to complete a few basic tasks. Do not allow your project to be too similar to any other project.

Level 2 – 15 Points

* This is the level of points that projects will earn if they are duplicates or are substantially similar to any other project in either 3001 section. All projects that have very similar individual elements will receive 15 points regardless of who duplicated whom. If your project does not show substantial independence of thought and work, this is the score level you will receive for the project.
* Include only some basic elements of the project and do not attempt or do not show evidence of attempting all the required elements.

Level 1 – 0 Points

* Do not submit a project or submit a file that has no meaningful elements.