

**Course Code:** ANL252

**Assignment:** TMA01

**SUSS PI No.:** N2070416

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Question 1(a)

* Plagiarism in coding happens when a user uses a source code from someone else without permission and citation, and claiming that their work is completely original (Lee, 2020)
* It is common for programmers to work together and produce a collaborated code for commercial usages (Lee, 2020)
  + Many coding sites and servers online such as Github, provides immediate academic help and coding solutions for programmers
    - Easy for learners to find coding solutions online (Lee, 2020)
  + Some of the source codes are open-sourced
    - These source codes are available for public usage and programmers are allowed to use them in their work
* For academics, students are expected to demonstrate the learning outcomes of the courses (Lee, 2020)
  + Plagiarism undermines students’ learning ability and defeats the aims of the coding course
* Preventive measures
  + Users should cite where the codes are from if they seek assistance from someone else, including from online platforms (Lee, 2020)
  + Generate unique codes on your own
  + Comment on which coding statement is adapted from someone else if applicable
  + Clarify the rules on coding integrity
    - Whether referring to external sources is allowed in the project

**(194 words)**

Question 1(b)

01 staffs = ("Linda", "Sandy", "Sally", "Lauren", "Billie", "Alexis", "Fredrick", "Lynn", "Issac")

02 english\_staffs = ("Linda", "Sandy", "Sally")

03 math\_staffs = ("Lauren", "Billie", "Alexis")

04 art\_staffs = ("Fredrick", "Lynn", "Issac")

05

06 input\_staff\_name = input("Please enter name of personnel:")

07

08 if input\_staff\_name in staffs:

09 print(f"{input\_staff\_name} is a staff of your organization.")

10 if input\_staff\_name in english\_staffs:

11 print(f"{input\_staff\_name} is a staff from the English department.")

12 elif input\_staff\_name in math\_staffs:

13 print(f"{input\_staff\_name} is a staff from the Math department.")

14 elif input\_staff\_name in art\_staffs:

15 print(f"{input\_staff\_name} is a staff from the Art department.")

16 else:

17 print(f"{input\_staff\_name} is not a staff of the organization.")

The above code tells the user whether the name of the personnel that they have input is part of the organization and which department the staff is working in. The elements in tuple staffs includes all the names of the staffs in the organization. The elements in other tuples, english\_staffs, math\_staffs and art\_staffs sort the staffs into the department that they belong to, which is the English, Math and Art department. Line 6 allows the user to input the name of the personnel. If the staff that the user has entered is an element in the tuple, staffs, the program will print out a statement that indicates that they are a staff of the organization. If the input is not an element in the tuple, the program will print out a statement indicating that the personel is not a staff of the organization. This is done through the if-else statement from line 8,9 and 17. If the user input is an element in staffs tuple, if-elif codes from line 10 to 15 will also print out a statement to indicate the department that the personnel is working in.

**(188 words)**

Question 1(c)

01 #This code is adapted from the code in question 1(b) from TMA01 of ANL252, written by Ailn Aik

02 #Tuple for all the ingredients in the kitchen

03 ingredients = ("apple", "orange", "watermelon","potato", "celery", "cilantro","chicken", "beef", "fish")

04 #Tuple for the ingredients that are fruits

05 fruits = ("apple", "orange", "watermelon")

06 #Tuple for the ingredients that are vegetables

07 vegetables = ("potato", "celery", "cilantro")

08 #Tuple for the ingredients that are meat

09 meat = ("chicken", "beef", "fish")

10

11 #Function to ensure that input is a string

12 while True:

13 input\_ingredient = input("Please enter the name of the ingredient, or enter 'exit' to exit program:")

14 if input\_ingredient.isalpha():

15 #Indicates ingredient's location according to the ingredient type

16 if input\_ingredient in ingredients:

17 print(f"You have {input\_ingredient} in your kitchen.")

18 if input\_ingredient in fruits:

19 print(f"{input\_ingredient} is in the fridge.")

20 elif input\_ingredient in vegetables:

21 print(f"{input\_ingredient} is in the pantry room.")

22 elif input\_ingredient in meat:

23 print(f"{input\_ingredient} is in the freezer.")

24 #Exit condition

25 elif input\_ingredient == "exit":

26 break

27 #Inform user to purchase missing ingredient

28 else:

29 print(f"You do not have {input\_ingredient} in your kitchen. Go get some!")

30 #Inform user of invalid input

31 else:

32 print(f"Invalid input. Please enter text only.")

* Modifications to avoid plagiarism
  + The rewritten code gives credit to the original source code and coder through citation in line 1
  + With additional codes, this code serves a different purpose from the code in question 1(b)
    - While-loop is included to allow user to enter input continuously unless they enter ‘exit’ in the input
    - Additional .isalpha() function: scan input to ensure that letters in text are all alphabetical (W3schools, 2023)
* The rewritten code
  + User can use this program to check if they have a specific ingredient and where to find them, before cooking or going to the market
  + Generates the location of the ingredient in the kitchen for the user if the input is available
  + If input is not a string, the program notifies user and subsequently prompts them to enter a valid text input
* The elements in the tuple ingredients includes all the items in the kitchen
* The elements in the tuples fruits, vegetables and meat classify the ingredients into different categories, which that also indicate their locations in line 16 to 23
  + Elements in tuple fruits, are located in the fridge
  + Elements in the tuple vegetables, are in the pantry room
  + Elements in the tuple meat, are stored in the freezer
* .isalpha() function in line 14 ensure input is a string
  + If input is not a string, line 31 to 32 will ask user to enter text input again
* Line 25 to 26 break off the while-loop if the user enter ‘exit’ in the input
* Line 16 to 23 tells the user if they have the ingredient and where to find them in the kitchen
  + Line 28 to 29 inform user that they do not have the input ingredient

**(292 words)**

Question 2

01 #This code is adapted from TMA01 Question 2 of ANL252

02

03 #Tuple for products

04 products = [“laptop”,”mouse”,”webcam”,”keyboard”,”speaker”]

05 query = “yes”

06 updated\_items = []

07 #Statement to show user the list of products

08 print(f”We have a list of products here: {products}.”)

09

10 #Loop to prompt user for input when they want to add products to the shopping list

11 while query == “yes”:

12 #Loop to prompt user to enter a valid product

13 while True:

14 item = str(input("Hello! What do you want to buy?"))

15 if item not in products:

16 print(f”Wrong product! Please try again.”)

17 else:

18 break

19 #Loop to prompt user to enter the price as a float

20 while True:

21 try:

22 price\_of\_item = float(input("How much is it (in SGD)?"))

23 if price\_of\_item <= 0:

24 print(f"Invalid price! Please try again.")

25 else:

26 break

27 except ValueError:

28 print(f"Invalid price! Please try again.")

29 #To update shopping list

30 entered\_input = [item, price\_of\_item]

31 updated\_items.append(entered\_input)

32 #Loop to prompt user to enter yes or no

33 while True:

34 query = str(input("Would you like to continue? (yes/no)"))

35 if query not in (“yes”, “no”):

36 print(f"Invalid input! Please enter 'yes' or 'no'!")

37 else:

38 break

39 #To show user the updated shopping list

40 print(f”This is our updated shopping list: {updated\_items}”)

* To improve readability
  + Include comments that describe what the sets of code are doing using #
* To improve reliability
  + While-loops are added to ensure inputs and the type of input are accurate
  + Program is automated to prompt user to re-enter input if input is not valid; User do not have to run program and enter the same inputs again even after minor typographic error
    - Line 13 to 18 ensure input is in the tuple, products
    - Line 20 to 28 ensure input is the input price is a float
    - Line 33 to 38 ensure input is either yes or no
* To improve overall quality
  + All strings are quoted with double quotation marks to ensure consistency
  + Separated coding blocs for easy references

**(128 words)**

**References**

Lee, C. (2020, July 28). *What is Programming Plagiarism? Why Is It on the Rise?* Turnitin. <https://www.turnitin.com/blog/what-is-programming-plagiarism-why-is-it-on-the-rise>

W3schools. (2023). *Python String isalpha() Method*. W3schools.com. <https://www.w3schools.com/python/ref_string_isalpha.asp>