**Course Code:** ANL252

**Title:** ANL252 Python for Data Analytics Tutor-Marked Assignment

**SUSS PI No:** B2272579

**Full Name:** Pereira Kathlyn Therese

**Submission Date:** 15 September 2023

**Qn 1a)**

Plagiarism occurs when a code has been copied over directly from another source without crediting the source. Plagiarism can be found in the variables, spacing and notes.

* Variable names may be the same when copied though each person may set a variable name differently. A way to prevent plagiarism from happening is to change the variable name to what suits your code the best.
* When a code is copied over, the spacings that another person used will still appear and not everyone has the same lines with spacing hence a way to prevent plagiarism is by either adding or deleting spacings.
* The last thing are notes embedded in the code. These notes would be a good way to spot plagiarism as notes are personalised to each coder. As such, it is useful to rewrite the notes or remove them if they are not needed. Another good way to prevent plagiarism in coding is to also provide credit where credit is due.

**Qn 1b)**

1 input\_gender = str (input ("Please enter the the gender of your child"))

2 input\_age = str (input ("Please enter the age of your child"))

3 input\_weight = str (input("Please enter the current weight of your child without decimal places in kg."))

4 input\_height = str (input ("Please enter the height of your child in cm "))

6

7 print (input\_gender)

8 if input\_gender == ("Female"):

9 print (input\_age)

10 else:

11 print("Thank you for your time")

12 if input\_age == "12":

13 print (input\_weight)

14 else:

15 print("Thank you for your time")

16 print (input\_weight)

17 print (input\_height)

18 print ("Thank you for your filling up this survey.")

The code above is based on a made-up scenario to collect data on the weight and height of girls aged 12 years old.

From lines 1 – 4, variables relating to gender, age, weight, and height have been coded such that the output should allow users to enter their child’s details with the presence of the input() function thus presenting us with the value. Different strings will appear if they fulfil the condition and if they do not fulfil the conditions. This thus comes in the form of if-else- blocks which appear in lines 6 – 13 whereby the if there is this condition, an instruction will appear and if this condition is not fulfilled, another instruction will appear instead (Kumar, 2023). The print functions are used to get the ouput (Kumar, 2023).

**Qn 1c)**

1 query = "yes"

2 query = str (input ("is your child a female? (yes/no)"))

3 query = str (input ("is your child 12 years old? (yes/no)"))

4 input\_weight = float (input("Please enter the current weight of 5 your child."))

5

6 print (query)

7 if query == "yes":

8 print (input\_weight)

9 else:

10 print (f"Thank you for your time")

11 input\_height = float (input ("Please enter the height of your child in cm "))

12 print (f"Thank you for your time. Your child is a 12 years old female with weight {input\_weight} kg and height {input\_height} cm")

13 #(Wu & Zhu, 2023)

Output:

is your child a female? (yes/no)yes

is your child 12 years old? (yes/no)yes

Please enter the current weight of your child without decimal places in kg.54

yes

54.0

Please enter the height of your child in cm 154

Thank you for your time. Your child is a 12 years old female with weight 54.0 kg and height 154.0 cm

* I have changed the code to a mixture of query questions and if-else-block. As we can see in the code, the function query( ) has been added to the questions relating to the gender and the age of the child. This addition of the query will make the code more readable and more reliable. This is because there are only 2 options to choose from and spelling mistakes, typos etc will not be an issue when the users input their data.
* The float function has been added to the height and weight codes so that the values will be converted into decimal values or fractional numbers which is useful when it comes to data for weight and height where a isn’t always a clear integer (“What is a Float in Python and How Does it Benefit Programmers”, 2022).
* Line 12 has a print function that makes use of combining two variables in a string by making use of the curly brackets { } which enables a formatted sentence to appear at the end (Wu & Zhu, 2023). This is useful as the output readability is much clearer to the users and the formatting allows the coder to easily understand where the variables are coming from.

**Qn 2)**

1 products = ["laptop","mouse", "webcam", "keyboard", "speaker"]

2 query = "yes"

3 print(f"We have a list of products here:{products}.")

4 updated\_items = []

5

6 while query == "yes" :

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

8 if item not in products:

9 print (f"Wrong product! Please input one of the products listed")

10 break

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

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

13 updated\_items.append(entered\_input)

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

15 print (f"This is our updated shopping list: {updated\_items}")

The reliability was enhanced by adding the variable updated\_items = [ ] into the code. This is to define the variable by telling the program that the variable is the specific value that the user inputs which can be done by defining the variable with an index operator (Kumar, 2023).

The text in the string under line 9 has been changed as the previous one which states “Wrong Product! Please try again” can be an enhancement to the readability as it allows the coder and the user to realise that they must follow the product list to input the next set of data (Readability Index in Python(NLP), n.d.).

The function float ( ) has also been added into the code under line 11 so as to allow for pricings with decimals which will make the code more reliable and improve the data quality overall (“What is a Float in Python and How Does it Benefit Programmers”, 2022).

**References:**

Kumar, M. (2023). Study Unit 1: *Introduction to Python Programming* [PowerPoint Slides]. Singapore University of Social Sciences.

*What is a Float in Python and How Does it Benefit Programmers*. (2022, October 27). Emeritus <https://emeritus.org/blog/coding-learn-what-is-a-float-in-python/>

Wu, K. Y., & Zhu, S. (2023). ANL252 Python for data analytics. Singapore University of Social Sciences.

*Readability Index in Python(NLP).* (n.d.). geeksforgeeks. <https://www.geeksforgeeks.org/readability-index-pythonnlp/>