

**ANL252**

**Python for Data Analytics**

**Tutor-Marked Assignment**

**July 2023 Presentation**

**Submitted by:**

|  |  |
| --- | --- |
| **Name** | **PI No.** |
| **Nur Hamizah Binte Ridwan** | M2311185 |

**Tutorial Group: ­­­­­­­­­­­­ T03**

**Instructor’s Name: Mr. Munish Kumar**

**Submission Date: 15/09/2023**

(a)

* There are websites that provide free source code and projects for everyone to use. There is no paywall or restrictions to use the codes.
* Students sometimes feel stuck and can’t find a way to solve the code on their own (Turnitin, 2021).
* It is hard to detect as most codes are similar with minimal changes, it can be seen as a new or unique code.
* I think there’s no foolproof way to avoid this issue as there’s not much room for original codes now for a simple task.
* We can treat it like any other work available online, it’s to reference the code creator or where it derived from.
* Students could also explain briefly or comment with documentation on how they derive the code. This could test their understanding of the code.

(b)

student\_weight = [29.2, 35.2, 45.3, 69.2, 45.3]

student\_height = [140.3, 142.9, 150.6, 151, 187.3]

weight\_input = (input("Please enter your child's weight in kg: "))

height\_input = (input("Please enter your child's height in cm: "))

student\_weight.append(weight\_input)

student\_height.append(height\_input)

print(f"You have added {weight\_input}kg and {height\_input}cm into the system")

print(f'total number of students (weight): {len(student\_weight)}')

print(f'total number of students (height): {len(student\_height)}')

numbers\_w = np.array(student\_weight)

new\_weight = numbers\_w.astype(float)

average\_w = np.mean(new\_weight)

print(f'Average weight for the entire class {average\_w:.2f} kg')

numbers\_h = np.array(student\_height)

new\_height = numbers\_h.astype(float)

average\_h = np.mean(new\_height)

print(f'Average height for the entire class {average\_h:.2f} cm')

output:

Please enter your child's weight in kg: 45

Please enter your child's height in cm: 150

You have added 45kg and 150cm into the system

total number of students (weight): 6

total number of students (height): 6

Average weight for the entire class 44.87

Average height for the entire class 153.68

This code I created is a system to add kindergarten students’ height and weight in class by the teacher. It will allow the teacher to check what they have input for one student and the number of students already in the system, so that both weight and height must have the same total. This will also allow the teacher to get the average height and weight for reporting to the head principal.

(c)

name\_list = []

weight\_list = []

height\_list = []

entry\_input = True

while entry\_input:

user\_name = str(input("Please enter the child's name: "))

user\_weight = float(input("Please enter the child's weight in kg: "))

user\_height = float(input("Please enter the child's height in cm: "))

name\_list.append(user\_name)

weight\_list.append(user\_weight)

height\_list.append(user\_height)

new\_input = str.casefold(input("Add another child? (yes/no)"))

if new\_input == 'no':

entry\_input == False

print(f"You have added '{user\_name}' into the system")

break

def avg\_total(num1, num2):

avg = sum(num1)/len(num2)

return avg

print(f'The latest student added into the system: {user\_name}')

print(f'total number of students (weight): {len(weight\_list)}')

print(f'total number of students (height): {len(height\_list)}')

result\_w = avg\_total(weight\_list, weight\_list)

result\_h = avg\_total(height\_list, height\_list)

print(f'The class average weight is {result\_w:.2f} kg and average height is {result\_h:.2f} cm')

Output:

Please enter the student's name:

Ham

Please enter the student's weight in kg:

65

Please enter the student's height in cm:

163

Add another student? (yes/no)

yes

Please enter the student's name:

Joel

Please enter the student's weight in kg:

66

Please enter the student's height in cm:

163

Add another student? (yes/no)

yes

Please enter the student's name:

Kelvin

Please enter the student's weight in kg:

65

Please enter the student's height in cm:

154

Add another student? (yes/no)

no

The latest student added into the system: Kelvin

total number of students (weight): 3

total number of students (height): 3

The class average weight is 65.33 kg and average height is 160.00 cm

* I changed it to make it more functional with while loops and functions to reduce hard coding.
* The code is changed to make it more user friendly with multiple inputs in a row.
* I wanted to make it different enough even though it serves the same function, but I modified to improve the usability of this system.

(Qn 2)

User input error can cause the code to not work, a way to improve it is to not make it case-sensitive, such as str.casefold().This will ensure that the user will still be able to proceed if entered ‘Yes’, ‘YES’, ‘YeS’.

Add a function to list of ‘products’ that are available for better readability on user’s end with a for-loop to print the item in a vertical way.

Before each input determine what data type to use (float, int, str).

Putting a “\n” after each user input allows a clearer output for user to see.

For the end output, it would look more presentable, instead of the following:   
This is our updated shopping list: [‘laptop’, ‘1669.90’], [‘mouse’, ‘18.50’]].

It can look like this:  
This is our updated shopping list:   
laptop $1669.90  
mouse $18.50.

To achieve it, a for-loop was created to give that output.

Modified code:

def show\_list():

print('We have a list of products here:')

for item in products:

print(item)

products = ['laptop', 'mouse', 'webcam', 'keyboard', 'speaker']

query = 'yes'

updated\_items = []

show\_list()

while query == 'yes':

item = str.casefold(input("\nHello! What do you want to buy?\n"))

if item not in products:

print('Wrong product! Please try again.')

break

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

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

updated\_items.append(entered\_input)

query = str.casefold(input("\nWould you like to continue? (yes/no)\n"))

print('This is our updated shopping list: ')

for total\_items in updated\_items:

prod = total\_items[0]

amt = (total\_items[1])

print(f'{prod} ${amt:.2f}')

References:

Writer, C. (2021, July 14). What is source code plagiarism and what does it have to do with academic integrity? Retrieved September 10, 2023, from

<https://www.turnitin.com/blog/what-is-source-code-plagiarism-and-what-does-it-have-to-do-with-academic-integrity#:~:text=1.,as%20your%20own%20without%20attribution>.