Week 4 Question 10- Programming

How to think like a programmer to solve question 10.

In question 10, Tony asks you to enter the value of 5 sweets (all less than £1) and perform some mathematical operations on them.

The inputs

The price of each sweet must be entered as such '15p' (the p after the number is very important). Because the input has the letter p in it, it cannot be any data type other than a String and we know you can't perform mathematics on Strings.

Cleaning & converting the data

To be of use, we need to find a way to remove the 'p' from the inputted values so that we can convert (change their type) to an int, we can convert a string to an int if it contains numbers **ONLY**. Once the values are of type int then we can perform the calculations.

Storing the data

This week's topic is 'Strings & Tuples'. A Tuple is a data structure used to store any type of data, we know we have 5 pieces of data that should be stored in our Tuple (the price of our sweets). Once our data is gathered and has the 'p' removed and cast into an int, we must then create a Tuple with the data.

There is an old saying in programming "Rubbish in, rubbish out", this basically means if we put poor data into our programme we will get poor data out.

Processing & printing the data

Once the cleaned and converted data is stored in a Tuple, you can use the methods of Python to allow us to answer question 10 (average price, min price & max price).

These websites (tutorialspoint and w3schools) have very good information about Tuple. The Python documentation contains details about the built in functions.

The step by step process

1. Get the price of the 5 sweets
2. Remove the 'p' form the inputted values
3. Convert the cleaned values from String to int
4. Create a Tuple with the cleaned values
5. Use the built in methods of Python (sum(), len(), min(), max()) on the Tuple to work out the average price, minimum price & maximum price
6. Print the results to the screen, add the 'p' onto the prices so that the text reads correctly.

Remember!

All the code needed for to answer this questions was shown in the lecture.

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