Mini data collection program

Predict .

Take a look at the code below. Read it carefully and try to make a prediction about what might happen when this code is executed.

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| 1  2  3  4  5  6  7  8  9  10  11  12  13 | print("What is your first initial?")  initial = input()  print("What is your surname")  surname = input()  print("What is your age?")  age = int(input())  print("True or False - you like marmite")  likes\_marmite = input()  marmite = "True"  decades = float((age / 10))  print(f"Well hello {initial} {surname}.")  print(f"It is {likes\_marmite==marmite} that you like marmite.")  print(f"This is probably because you are {decades} decades old") |

**Write your prediction in the box below:**

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| Firstly the user will be asked what is their first initial and they will have to input a character, then they will be asked to enter their surname. After which they will be asked their age in numbers. Furthermore they will be asked to answer true or false to whether or not they like marmite. The code will then print “Well hello R Myers.” “It is true that you like marmite” “This is probably because you are 3 decades old” It will also show the decades in decimals due to the floating point number. |

Run .

Open and **run** the file with this code. Here’s a [copy of the code](https://repl.it/@NCCE/Mini-data-collection-program) , if needed.

Was your prediction correct? Did anything unexpected happen? Write down your thoughts below:

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Investigate .

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| **Questions/activities** | **Your answers** ▿ |
| What data type is being collected at line 2? | String |
| Run the program and type more than 1 character when asked for your first initial.  What happens? | It prints the extra characters |
| Why do you think this is? | The initial function is just defined as input rather than char which would just be a single character |
| Does Python have a function for char? Take a look at this link and read the documentation carefully: [**ncce.io/pythonfunctions**](https://ncce.io/pythonfunctions) | No |
| Run the program and type in some string (text) when you are asked for your age. What happens? | ERROR! Traceback (most recent call last): File |
| Why do you think this happens? | It is set to integer rather than string so it will only recognise whole numbers |
| Run the program and type in all lower case **true** when asked if you like marmite. What happens to the marmite message? | It returns a false result as true is not the same function as True |
| Run the program and type in **True** when asked if you like marmite. What happens to the marmite message? | It is True that you like marmite. |
| Run the program and type in **hello** when asked if you like marmite. What happens to the marmite message? | It returns a false result - it is false that you like marmite. |
| Line 12 contains the following piece of code likes\_marmite == marmite". What do you think might be happening here? | Likes\_marmite returns a True result as marmite is code for True |
| Run the program and type 9 when you are asked for your age. What happens? | It returns 0.9 decades old because 9 years old is not yet a full decade and floating number code will return a decimal number |
| On line 10, the forward slash / is being used between the variable age and the number 10. What arithmetic operation is the forward slash performing? | Division by 10 |
| On line 10, change the word float to int. Run the code and type in 9 as your age. What happens? | It returns the result to the nearest decade = 34 = 3 decades |
| Keeping line 10 as int. Run the code and type in 28 as your age. What happens? | It shows the result as 2 decades because it has to return a whole number result. |
| What do you think is happening when the number is held as an integer compared to a float? | Integer code has to return a whole number result and since the decades are only to the nearest 10 and it can't be a decimal. |

Modify .

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| **Modification** | **Hint** |
| The age must be entered as a number on line 6. Use try and except to remind the user that they must enter a number. | Sample code:  print("Enter a number")  try:  number = float(input())  except ValueError:  print("You must enter a number")  number = float(input()) |

print("What is your first initial?")

initial = input()

print("What is your surname")

surname = input()

print("What is your age?")

try:

age = int(input())

except ValueError:

print("Enter a number")

age = int(input())

print("True or False - you like marmite")

likes\_marmite = input()

marmite = "True"

decades = float((age / 10))

print(f"Well hello {initial} {surname}.")

print(f"It is {likes\_marmite==marmite} that you like marmite.")

print(f"This is probably because you are {decades} decades old")

Explorer task .

Create a new program for a gym membership. Try to use all of the techniques used in this activity in your new program.