Computing

Lesson 4: Input

Programming Part 1: Sequence

Rebecca Franks

Task: Make a prediction

Take a look at the program below and make a prediction about what will be output on the screen when this program is executed. **Write your prediction down.**

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

Task: Run the program

1. Open the program using the following shortlink:
   oaknat.uk/comp-ks4-minidatacollect
2. Run the program
3. Was your prediction correct? Did anything surprise you?

Task: Investigate the program

Follow the steps to investigate the program. Record your answers.

Step 1	Step 2	Step 3
What data type is being collected at line 2?	Run the program and type more than 1 character when asked for your first initial. What happens?	Why do you think this is?

Task: Investigate the program

Follow the steps to investigate the program. Record your answers.

Step 4	Step 5	Step 6
Does Python have a function for char? Take a look at this link and read the documentation carefully: **oaknat.uk/comp-pythonfunctions**	Run the program and type in some string (text) when you are asked for your age. What happens?	Why do you think this happens?

Task: Investigate the program

Follow the steps to investigate the program. Record your answers.

Step 7	Step 8	Step 9
Run the program and type in all lower case **true** when asked if you like marmite. What happens to the marmite message?	Run the program and type in **True** when asked if you like marmite. What happens to the marmite message?	Run the program and type in **hello** when asked if you like marmite. What happens to the marmite message?

Task: Investigate the program

Follow the steps to investigate the program. Record your answers.

Step 10	Step 11	Step 12
Line 12 contains the following piece of code `likes_marmite == marmite`. What do you think might be happening here?	Run the program and type 9 when you are asked for your age. What happens?	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?

Task: Investigate the program

Follow the steps to investigate the program. Record your answers.

Step 13	Step 14	Step 15
On line 10, change the word `float` to `int`. Run the code and type in 9 as your age. What happens?	Keeping line 10 as `int`. Run the code and type in 28 as your age. What happens?	What do you think is happening when the number is held as an **integer** compared to a **float**?

Task: Modify

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())
```