Lesson 2: Food Survey

In this lesson, you'll learn how to interact with your program while it's running. This will let us get information from the user about their favorite food, and respond to it.

In order to interact with your program, your program will need to ask for *input* from you or a friend, and will need to store this input into a container called a *variable*.

In programming, a variable is a name that refers to some information in the code. The information can be a number, a string (message), or a few other things.

It can help to think of variables as buckets with names. We can change or look at what's in the bucket whenever we like, and buckets can have different things in them.

PART 1: Getting Text Input from the User

First, we want to know what the user's name is, and we can will store that name to use later in the program.

In order to store the name, we need to make a new variable called `person`.
We can make, or *define*, a new variable by using the form `variable = value`

Try typing in the code below. Note that we type a space after the colon (:) so that there will be a space between the question and the user's response (which will we code next.

```
person = input("Enter your name: ")
```

`input()` is a function that asks for whatever the user types in.

When we define a variable, we are placing information into it, like with a bucket.
This process is called *assigning a value to the variable*.

In this case, we are putting the user's response to the question into the variable `person`.

If the user types in "Alex", the variable `person` will contain the string "Alex".

PART 2: Printing Variables

After we've stored the user's response in a variable, we can print the value of that variable as part of a message.

Try typing in the following code to the end of your program:

```
person = input("Enter your name: ")
print("Hello", person)
```

Note that we have quotation marks around a string, but do not have any quotation marks around a variable.

Note also that we have a comma between the data – “Hello” and person. The comma separates the two objects when the line is printed. The comma will place a space between the two objects.

PART 3: Creating another variable for a user input

Let’s create a second variable, called food, which will accept the user’s input of their favorite food.

Do this now: Create a new variable called food, and ask the user a question such as “What’s your favorite food?”

When you are done, turn to the next page.

```
person = input("Enter your name: ")
print("Hello", person)
food = input("What is your favorite food? ")
```

PART 4: Defining an Input as a Number

Next, we will ask the user another question – how much of their favorite food do they eat in a week. Their answer will be a number versus a string, and we need to let our program know this. If the variable is a number, we can perform calculations with it, such as try to determine how much of their favorite food they lead in one year.

We will identify a data type for the variable. The datatype will be `int` which stands for integer. This means that the variable will be represented by a whole number. Later, you will use another variable data type called `float` to identify that a variable has a decimal point (called a floating decimal point).

```
person = input("Enter your name: ")
print("Hello", person)
food = input("What is your favorite food? ")
amount = int(input("How much "+ food + " do you eat in a week? "))
```

PART 5: Finishing our Program

Add two more lines of code – one that calculates the annual consumption of the favorite food, and a second line which prints out that annual consumption number.

```
……
amount = int(input("How much "+ food + " do you eat in a week? "))
yearly = int(amount * 52)
print("Guess what? You eat", yearly, "units of", food, "each year!")
```

Notice that we use * as an operator to multiply numbers.

PART 6: BONUS: Food in a Lifetime Calculation

Once your program works, you can use what you've learned to find the amount of the favorite food that a person would eat in a lifetime!

For this program, create a new variable for the response to a question such as “How many years do you think you will live?”

Then, create another variable which multiplies the annual consumption and the expected years of life.

Then, print out a statement telling the person how much of their favorite food they are likely to consume if they live the expected number of years.

Try this on your own. If you run into any problems, try to fix it on your own or turn to one possible solution on the next page.

```
person = input("Enter your name: ")
print("Hello", person)
food = input("What is your favorite food? ")
amount = int(input("How much "+ food + " do you eat in a week? "))
yearly = int(amount * 52)
print("Guess what? You eat", yearly, "units of", food, "each year!")
life = int(input("How many years do you think you will live? "))
total = int(yearly * life)
print("OK - in your life, you will eat", total, "units of", food, "!")
```