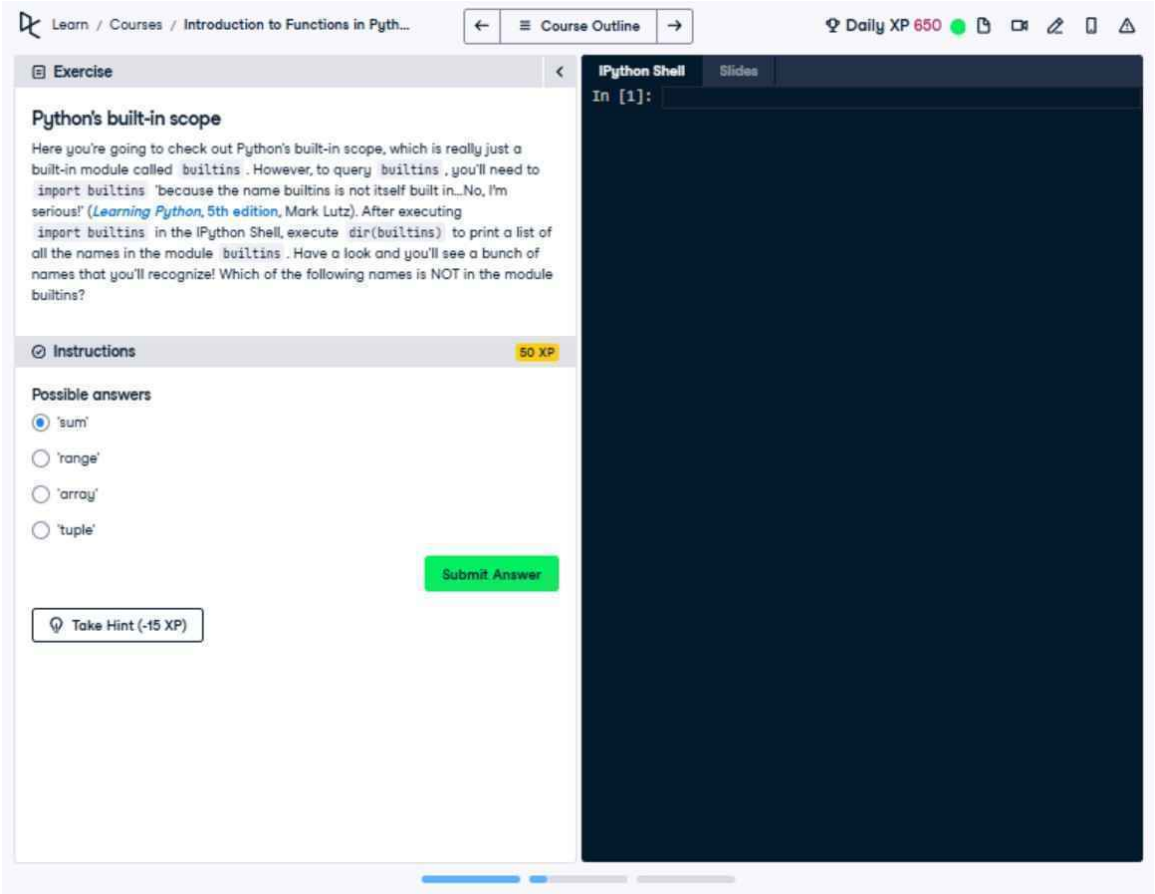
Functions with Variable-Length Arguments (`*args`)



Question:

Flexible arguments enable you to pass a variable number of arguments to a function.
In this exercise, you will practice defining a function that accepts a variable number of string arguments.

The function you will define is `gibberish()` which can accept a variable number of string values.
Its return value is a single string composed of all the string arguments concatenated together in the order they were passed to the function call.
You will call the function with a single string argument and see how the output changes with another call using more than one string argument.

Recall from the previous video that, within the function definition, `args` is a tuple.

Instructions:
1. Complete the function header with the function name `gibberish`. It accepts a single flexible argument `*args`.
2. Initialize a variable `hodgepodge` to an empty string.
3. Concatenate the strings in `args` to `hodgepodge` using a `for` loop.
4. Return the variable `hodgepodge` at the end of the function body.
5. Call `gibberish()` with the single string `"luke"`. Assign the result to `one_word`.
6. Call `gibberish()` with five strings: `"luke"`, `"leia"`, `"han"`, `"obi"`, `"darth"`. Assign the result to `many_words`.
7. Print `one_word` and `many_words`.

Answer:

```
# Define gibberish
def gibberish(*args):
    """Concatenate strings in *args together."""

    # Initialize an empty string: hodgepodge
    hodgepodge = ""

    # Concatenate the strings in args
    for word in args:
        hodgepodge += word

    # Return hodgepodge
    return hodgepodge

# Call gibberish() with one string: one_word
one_word = gibberish("luke")

# Call gibberish() with five strings: many_words
many_words = gibberish("luke", "leia", "han", "obi", "darth")

# Print one_word and many_words
print(one_word)
print(many_words)
```

Explanation:

1. def gibberish(*args): - Defines a function `gibberish` that accepts a variable number of arguments stored in the tuple `args`.

2. hodgepodge = "" - Initializes an empty string `hodgepodge` to store the concatenated result.
3. for word in args: - Iterates over each element in `args`, where each element is a string passed to the function.
4. hodgepodge += word - Concatenates each string in `args` to `hodgepodge`.
5. return hodgepodge - Returns the final concatenated string stored in `hodgepodge`.
6. one_word = gibberish("luke") - Calls `gibberish` with a single argument `"luke"`. The returned value is `"luke"`.
7. many_words = gibberish("luke", "leia", "han", "obi", "darth") - Calls `gibberish` with multiple arguments.
   The returned value is `"lukeleiahanobidarth"`.
8. print(one_word) - Prints the result of the single argument call, `"luke"`.
9. print(many_words) - Prints the result of the multiple argument call, `"lukeleiahanobidarth"`.