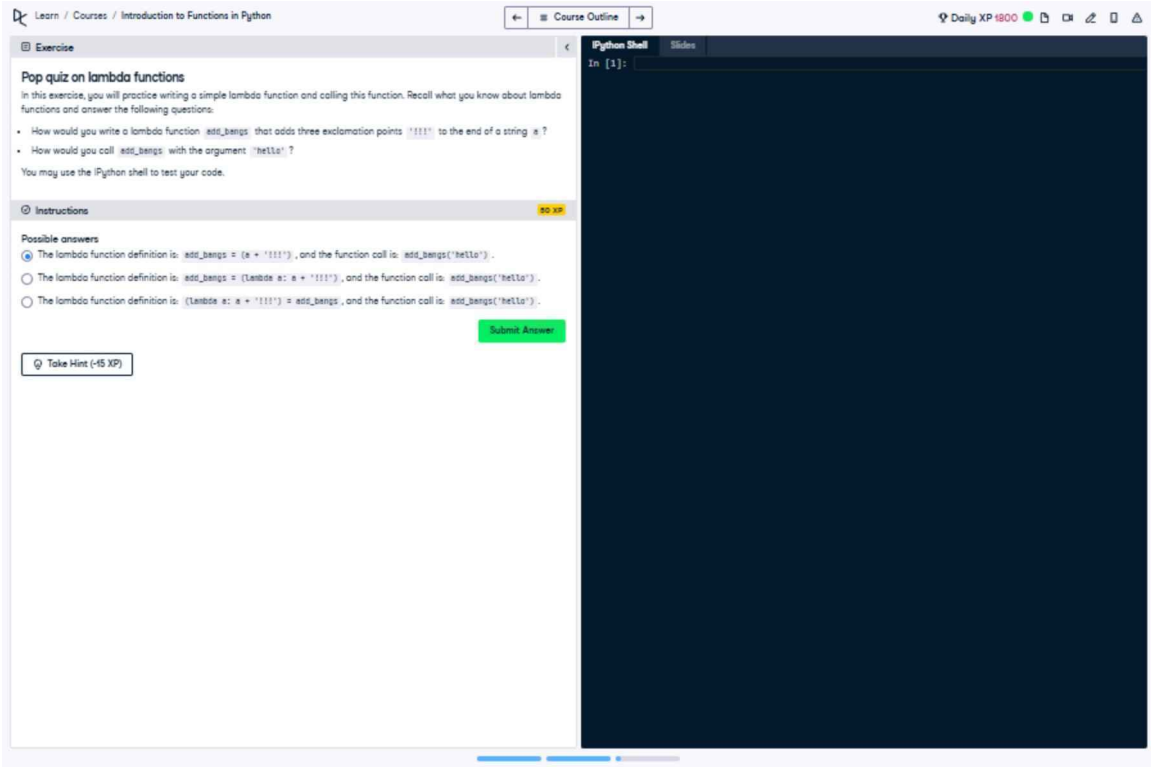
Reduce() and Lambda Functions



Question:

You're getting very good at using lambda functions! Here's one more function to add to your repertoire of skills.
The `reduce()` function is useful for performing some computation on a list and, unlike `map()` and `filter()`,
returns a single value as a result. To use `reduce()`, you must import it from the `functools` module.

Remember `gibberish()` from a few exercises back?

```
# Define gibberish()
def gibberish(*args):
    """Concatenate strings in *args together."""
    hodgepodge = ''
    for word in args:
        hodgepodge += word
    return hodgepodge
```

`gibberish()` simply takes a list of strings as an argument and returns, as a

single-value result, the concatenation of all of these strings.
In this exercise, you will replicate this functionality by using `reduce()` and a lambda function that concatenates strings together.

Instructions:
1. Import the `reduce` function from the `functools` module.
2. In the `reduce()` call, pass a lambda function that takes two string arguments `item1` and `item2` and concatenates them; also pass the list of strings, `stark`.
   Assign the result to `result`. The first argument to `reduce()` should be the lambda function and the second argument is the list `stark`.
3. Print the result.

Answer:

```
# Import reduce from functools
from functools import reduce

# Create a list of strings: stark
stark = ['robb', 'sansa', 'arya', 'brandon', 'rickon']

# Use reduce() to apply a lambda function over stark: result
result = reduce(lambda item1, item2: item1 + item2, stark)

# Print the result
print(result)
```

Explanation:

1. **Importing reduce():**
   The `reduce()` function is not built-in and must be imported from the `functools` module.
   Syntax: `from functools import reduce`.

2. **List of Strings:**
   The list `stark` contains the names of members of House Stark in "Game of Thrones".
   Example: `['robb', 'sansa', 'arya', 'brandon', 'rickon']`.

3. **Lambda Function in reduce():**
   The lambda function takes two arguments (`item1` and `item2`) and concatenates them using `+`.

Syntax: `lambda item1, item2: item1 + item2`.

4. **reduce():**
   The `reduce()` function applies the lambda function cumulatively to the elements of the list, reducing the list to a single concatenated string.
   Example Output: `'robbsansaaryabrandonrickon'`.

5. **Print the Result:**
   The concatenated result of all strings in the `stark` list is printed to the console.
   Expected Output: `'robbsansaaryabrandonrickon'`.