

Subset and Conquer - Python Exercise

Below is the image provided along with the recreated question, terminal output, and answer:

The screenshot shows a web browser window displaying a DataCamp exercise page. The page title is "Subset and conquer". The instructions are as follows:

- Print out the second element from the `areas` list (it has the value `11.25`).
- Subset and print out the last element of `areas`, being `9.50`. Using a negative index makes sense here!
- Select the number representing the area of the living room (`20.0`) and print it out.

Below the instructions is a "Take Hint (-30 XP)" button. To the right of the instructions is a code editor with the following script:

```
1 # Create the areas list
2 areas = ["hallway", 11.25, "kitchen", 18.0, "living room", 20.0, "bedroom", 10.75, "bathroom", 9.50]
3
4 # Print out second element from areas
5 print(areas[____])
6
7 # Print out last element from areas
8 print(areas[____])
9
10 # Print out the area of the living room
11 print(areas[____])
```

Below the code editor is a terminal shell with the prompt `In [1]:`.

Recreated Question and Terminal

Subset and Conquer

Subsetting Python lists is a piece of cake. Take the code sample below, which creates a list `x` and then selects `"b"` from it. `"b"` is the second element, so it has index 1. You can also use negative indexing.

```
x = ["a", "b", "c", "d"]
x[1] # selects "b"
x[-3] # same result!
```

Remember the `areas` list from before, containing both strings and floats? Its definition is already in the script. Can you add the correct code to do some Python subsetting?

Instructions:

- Print out the second element from the areas list (it has the value 11.25).
- Subset and print out the last element of areas, being 9.50. Using a negative index makes sense here!
- Select the number representing the area of the living room (20.0) and print it out.

Answer

```
# Create the areas List
areas = ["hallway", 11.25, "kitchen", 18.0, "living room", 20.0, "bedroom",
10.75, "bathroom", 9.50]

# Print out second element from areas
print(areas[1])

# Print out last element from areas
print(areas[-1])

# Print out the area of the living room
print(areas[5])
```

Explanation of the Answer

The code uses indexing to access elements in the areas list. `areas[1]` retrieves 11.25, the second element. `areas[-1]` accesses the last element, 9.50, using negative indexing. `areas[5]` retrieves 20.0, the area of the living room. Indexing helps extract specific values efficiently.