

Sampling Deals - Step 1/3

The screenshot shows a web-based coding environment. On the left, the 'Exercise' panel is titled 'Sampling deals'. It contains two paragraphs of text: 'In the previous exercise, you counted the deals Amir worked on. Now it's time to randomly pick five deals so that you can reach out to each customer and ask if they were satisfied with the service they received. You'll try doing this both with and without replacement.' and 'Additionally, you want to make sure this is done randomly and that it can be reproduced in case you get asked how you chose the deals, so you'll need to set the random seed before sampling from the deals.' Below the text, it states 'Both pandas as pd and numpy as np are loaded and amir_deals is available.' The 'Instructions 1/3' section lists two tasks: 'Set the random seed to 24.' and 'Take a sample of 5 deals without replacement and store them as sample_without_replacement.' A 'Take Hint (-10 XP)' button is present. The main area on the right is a code editor for 'script.py' in 'Light Mode'. It contains the following code:

```
1 # Set random seed
2 ----
3
4 # Sample 5 deals without replacement
5 sample_without_replacement = ----
6 print(sample_without_replacement)
```

 At the bottom right of the code editor are buttons for 'Run Code' and 'Submit Answer'. Below the code editor is an 'IPython Shell' panel with a 'Slides' tab and a prompt 'In [1]:'.

Figure: Screenshot showing the setup for sampling 5 deals without replacement using a random seed.

Question

In the previous exercises, you counted the deals Amir worked on. Now it's time to randomly pick five deals so that you can reach out to each customer and ask if they were satisfied with the service they received. You'll try doing this both with and without replacement.

****Instructions:****

1. Set the random seed to `24` to ensure reproducibility.
2. Take a sample of 5 deals without replacement and store them as `sample_without_replacement`.
3. Print the sampled deals.

Corrected Code Solution

```
import pandas as pd
import numpy as np

# Set random seed
np.random.seed(24)

# Sample 5 deals without replacement
sample_without_replacement = amir_deals.sample(n=5, replace=False)
print(sample_without_replacement)
```

Answer Explanation

1. ****Setting Random Seed:**** The random seed is set to `24` to ensure that the sampling process is reproducible. This means that anyone running the code with the same seed will get the same sample.
2. ****Sampling Without Replacement:**** The `sample()` method is used with the parameter `replace=False` to ensure that once a deal is selected, it cannot be selected again. This ensures all selected deals are unique.
3. ****Purpose:**** Sampling without replacement is useful when you want to avoid duplicates in your sample, such as when selecting customers to contact for feedback.
4. ****Output:**** The sampled deals are printed, showing the details of 5 unique deals selected from Amir's dataset.