

Tracking Lead Responses with Corrected Answer

Learn / Courses / Introduction to Statistics in Python

Exercise

Tracking lead responses

Your company uses sales software to keep track of new sales leads. It organizes them into a queue so that anyone can follow up on one when they have a bit of free time. Since the number of lead responses is a countable outcome over a period of time, this scenario corresponds to a Poisson distribution. On average, Amir responds to 4 leads each day. In this exercise, you'll calculate probabilities of Amir responding to different numbers of leads.

Instructions 3/4

35 XP

✓ Import `poisson` from `scipy.stats` and calculate the probability that Amir responds to 5 leads in a day, given that he responds to an average of 4.

✓ Amir's coworker responds to an average of 5.5 leads per day. What is the probability that she answers 5 leads in a day?

3

What's the probability that Amir responds to 2 or fewer leads in a day?

Take Hint (-7 XP)

4

What's the probability that Amir responds to more than 10 leads in a day?

script.py

Light Mode

```
1 # Import poisson from scipy.stats
2 from scipy.stats import poisson
3
4 # Probability of 2 or fewer responses
5 prob_2_or_less = ____
6
7 print(prob_2_or_less)
```

Run Code

Submit Answer

iPython Shell

Slides

<script.py> output:
0.17140068409793663
0.2381033055354436
0.0028397661285137315

In [1]:

Question:

Your company uses software to keep track of new sales leads. Amir responds to an average of 4 leads per day. This scenario corresponds to a Poisson distribution. Calculate the probability of Amir responding to 2 or fewer leads in a day using the cumulative distribution function (CDF).

Explanation of the Question:

This task requires computing probabilities using the Poisson cumulative distribution function (CDF) to model the likelihood of Amir responding to 2 or fewer leads in a day. The given average response rate (λ) is 4.

Corrected Answer:

```
# Import poisson from scipy.stats
from scipy.stats import poisson

# Use the CDF to calculate the probability of 2 or fewer responses
prob_2_or_less = poisson.cdf(2, 4)

print(prob_2_or_less)
```

Explanation of the Corrected Answer:

The corrected solution uses the Poisson cumulative distribution function (CDF) to calculate the probability of Amir responding to 2 or fewer leads. With lambda set to 4, the CDF sums up the probabilities of 0, 1, and 2 responses, resulting in the final cumulative probability.