21se02ml006

Assignment

You have conducted an experiment where you flipped a biased coin 50 times and recorded the outcomes. The coin is known to have a probability p of landing on heads. You observed 30 heads and 20 tails. Using the MLE technique, estimate the parameter p that represents the probability of getting heads.

Write Python code to calculate the MLE estimate of the parameter p based on the given data (number of heads and total number of coin flips).

Answer:

```
[1] def calculate_mle_estimate(heads, total_flips):
        mle_estimate = heads / total_flips
        return mle_estimate

    # Given data
    number_of_heads = 30
    total_coin_flips = 50

    # Calculate MLE estimate
    mle_parameter_estimate = calculate_mle_estimate(number_of_heads, total_coin_flips)
    print("MLE estimate of the parameter p:", mle_parameter_estimate)
```

```
MLE estimate of the parameter p: 0.6
```