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Week 1 Lab

Back to Week weekNumber

6/6 points earned (100%)

Quiz passed!

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1 / 1 points

1.
Based on the preceding result, what is the probability that Machine 1 is “Bad” given you won playing on Machine 1?

- 0.3
- 0.4

Correct

- 0.5
- 0.6
- 0.7

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1 / 1 points

2.
Based on the preceding result, what is the probability that Machine 2 is “Good” given you won playing on Machine 1?

- 0.3
- 0.4

Correct

- 0.5
- 0.6
- 0.7

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1 / 1 points

3.
Under the Bayesian paradigm, which of the following correctly matches the probabilities with their names?

- (selected) Posterior - $P(M_1 \text{ is Good} \mid \text{Win on } M_1)$

  Prior - $P(M_1 \text{ is Good})$

  Likelihood - $P(\text{Win on } M_1 \mid M_1 \text{ is Good})$

  Correct

- Posterior: $P(M_1 \text{ is Good} \mid \text{Win on } M_1)$

  Prior: $P(\text{Win on } M_1 \mid M_1 \text{ is Good})$

  Likelihood: $P(M_1 \text{ is Good})$

- Posterior: $P(\text{Win on } M_1 \mid M_1 \text{ is Good})$

  Prior: $P(M_1 \text{ is Good} \mid \text{Win on } M_1)$

  Likelihood: $P(M_1 \text{ is Good})$

- Posterior: $P(\text{Win on } M_1 \mid M_1 \text{ is Good})$

  Prior: $P(M_1 \text{ is Good})$

  Likelihood: $P(M_1 \text{ is Good} \mid \text{Win on } M_1)$

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1 / 1
points

4.
Using the **bandit_posterior** function calculate the posterior probabilities of Machine 1 and 2 being “good” after playing Machine 1 twice and winning both times and then playing Machine 2 three times and winning twice and then losing.

- $P(M_1 \text{ is good} \mid \text{data}) = 0.250, P(M_2 \text{ is good} \mid \text{data}) = 0.750$
- $P(M_1 \text{ is good} \mid \text{data}) = 0.429, P(M_2 \text{ is good} \mid \text{data}) = 0.571$
- $P(M_1 \text{ is good} \mid \text{data}) = 0.571, P(M_2 \text{ is good} \mid \text{data}) = 0.429$

Correct

- $P(M_1 \text{ is good} \mid \text{data}) = 0.750, P(M_2 \text{ is good} \mid \text{data}) = 0.250$

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1 / 1
points

5.
What would the posterior probabilities be if we had instead played Machine 2 first, playing three times, winning twice and losing once and then playing Machine 1 twice and winning both times?

- $P(M_1 \text{ is good} \mid \text{data}) = 0.250, P(M_2 \text{ is good} \mid \text{data}) = 0.750$
- $P(M_1 \text{ is good} \mid \text{data}) = 0.429, P(M_2 \text{ is good} \mid \text{data}) = 0.571$
- $P(M_1 \text{ is good} \mid \text{data}) = 0.571, P(M_2 \text{ is good} \mid \text{data}) = 0.429$

Correct

- $P(M_1 \text{ is good} \mid \text{data}) = 0.750, P(M_2 \text{ is good} \mid \text{data}) = 0.250$

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1 / 1
points

6.
Why do the posterior probabilities for Machine 1 and Machine 2 mirror each other?

- $P(M_1 \mid \text{data})$ and $P(M_2 \mid \text{data})$ are complementary
- Machine 1 and Machine 2 being “good” are mutually exclusive events
- All of the above

Correct