SEIS 631

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Assignment 3

**Question 1 [MULTIPLE CHOICE] What does a streak length of 1 mean, i.e. how many hits and misses are in a streak of 1?**

(b) A hit followed by a miss.

**Question 2 [MULTIPLE CHOICE] Which of the following is FALSE about the distribution of Kobe’s streak lengths from the 2009 NBA finals. (note – only one of the answers is false).**

**Hint: You might want to also use other visualizations and summaries of kobe streak in order to answer this question.**

(a) The distribution of Kobe’s streaks is unimodal and left skewed.

**Question 3 [TRUE / FALSE] If Kobe has a hot hand (not independent shots), then the probability that he makes his second shot would go up given that he made the first shot: P(shot 2 = H | shot 1 = H ) > 0.45**

◦ TRUE

**Question 4 [MULTIPLE CHOICE] If Kobe’s shooting streaks diverge significantly from an independent shooter’s streaks,**

(c) we cannot conclude anything

Note: We cannon conclude anything because our sample shooter is just one random case and may not be representative of a larger sampling of independent shooters.

**Question 5: In your simulation of flipping the unfair coin 100 times, how many flips came up heads?** 19

**Question 6: Using calc\_streak, compute the streak lengths of sim\_basket. Describe the distribution of streak lengths.**

Simulated Shooter streak

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Num in Streak | 0 | 1 | 2 | 3 | 4 |
| Results | 48 | 10 | 9 | 6 | 3 |

Kobe streak

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Num in Streak | 0 | 1 | 2 | 3 | 4 |
| Results | 39 | 24 | 6 | 6 | 1 |

Based on the results of the simulated shooter and Kobe. The distribution of the simulated shooter showed an increased number of longer streaks of 2 consecutive baskets and 4 consecutive baskets where Kobe showed a higher number of single basket streaks.

**True or False: Since Kobe’s streak length distribution looks very similar to the independent shooter’s simulated streak length distribution, we can conclude that Kobe Bryant likely does not have a “hot hand”.**

◦ FALSE

We cannot conclude that he does not have “hot hand” as we are only comparing to a single random result. Based on the single sampling it is possible he does not have hot had, but it is not conclusive.