STAT 210: Quiz #1
Spring 20
Points: 20

20

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Consider the following Wiki entry for the Swain vs. Alabama Supreme Court case.

http://en.wikipedia.org/wiki/Swain_v._Alabama

Swain v. Alabama

From Wikipedia, the free encyclopedia

Swain v. Alabama, 380 U.S. 202 (1965), was a case heard before the Supreme Court of the United States regarding the legality of a struck jury.

Swain, a black man, was indicted and convicted of rape in the Circuit Court of Talladega County, Alabama, and sentenced to death. The case was appealed to the Supreme Court on the grounds that there were no black jurors. Of eligible jurors in the county, 26% were black, but panels since 1953 averaged 10% to 15% black jurors.

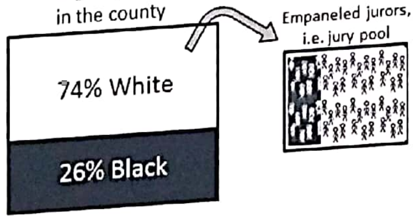
The Supreme Court denied the appeal, because 8 of 100 empaneled jurors were black, but all were "struck" by peremptory challenges by the prosecution. The ruling for the majority stated, "The overall percentage disparity has been small and reflects no studied attempt to include or exclude a specified number of blacks."

This case recognized the peremptory challenge as a valid legal practice so long as it was not used intentionally to exclude blacks from jury duties.

The precedent was overturned in *Batson v. Kentucky*, 476 U.S. 79 (1986).

The Wikipedia article states that of 26% of the eligible jurors were black. A schematic for picking such a jury pool is provided below. → left-tail

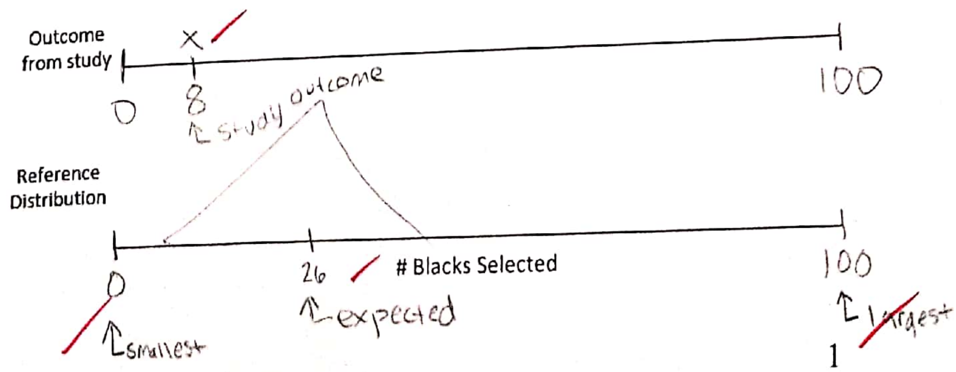
P=.26



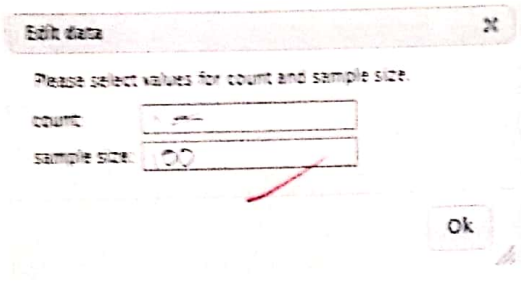
Research Question: Is there enough (statistical) evidence to suggest that the jury selection process for Swain was bias against blacks?

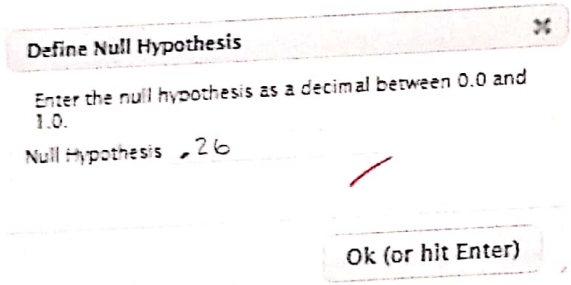
1. Identify the following quantities on the number line below for the investigation. (5 pts)

- 0 → Smallest possible value
- 100 → Largest possible value
- 26 → Location of pyramid, i.e. expected value
- 8 → Outcome from study

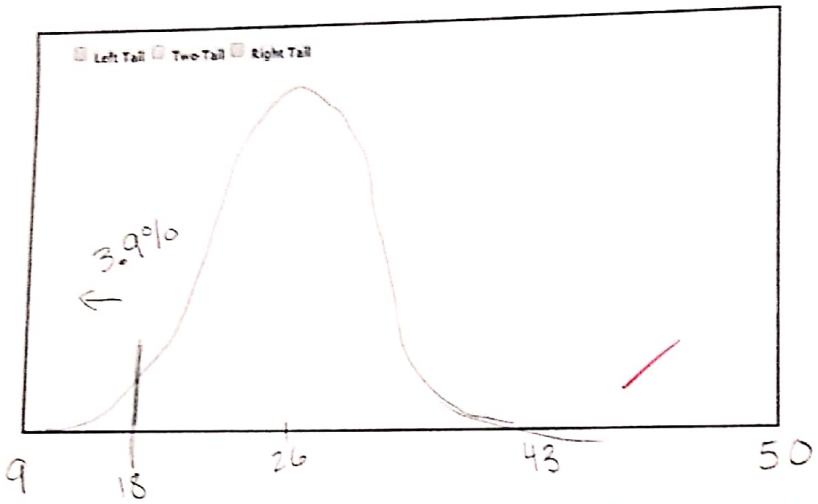


2. Identify the following simulation parameters for your investigation. (3 pts)





3. Obtain a few thousand repreated samples using StatKey. Provide a rough sketch of the outcomes obtained for your reference distribution below. Include labels on the horizontal axis for your rough sketch. (3 pts)



4. Which of the following statements is most correct regarding the reference distribution provide above? (3 pts)

a. The dots on this reference distribution were obtained under the assumption that the selection of Blacks for the jury pool was done fairly and without any bias.
b. The dots on this reference distribution were obtained under the assumption that the selection of Blacks for the jury pool was done in an unfair manner and with bias.
c. The dots on this reference distribution were obtained under the assumption that the selection of Blacks for the jury pool may have been done in an unfair manner and with possible bias.

5. Swain's outcome is considerable lower than the outcomes from the pyramid. What does this imply about possible biases in the selection of Swain's jury pool? Discuss. (3 pts)

Swain's jury pool was bias against blacks.

6. Does your simulation provide evidence *for* or *against* the statement made by the Supreme Court? Explain. Your explanation must make use of the pyramid to receive full credit. (3 pts)

Against because under our unbiased reference distribution Swain's jury was statistically unlikely. 8 is an outlier because it falls under the cutoff.