

# Death Penalty Sentencing Report

*Sentence / Defendant's Race (State list)*

	Life in Prison	Death
Black	0	6
White	7	5

Test the null hypothesis that there is no association between the sentence and the defendant's race. Use Fisher's Exact Test to compute a p-value.

**State data: p-value = 0.038**

This result implies strong evidence against the null hypothesis.

# Fisher's Exact Test

## What Are the Probabilities?



	Life	Death
<b>Black</b>	0	6
<b>White</b>	7	5
<b>Prob.</b>	0.0249	Observed

	Life	Death
<b>Black</b>	2	4
<b>White</b>	5	7
<b>Prob.</b>	0.3733	

	Life	Death
<b>Black</b>	1	5
<b>White</b>	6	6
<b>Prob.</b>	0.1742	

	Life	Death
<b>Black</b>	3	3
<b>White</b>	4	8
<b>Prob.</b>	0.3111	

	Life	Death
<b>Black</b>	4	2
<b>White</b>	3	9
<b>Prob.</b>	0.1037	

	Life	Death
<b>Black</b>	5	1
<b>White</b>	2	10
<b>Prob.</b>	0.0124	

	Life	Death
<b>Black</b>	6	0
<b>White</b>	1	11
<b>Prob.</b>	0.0004	

Total of all probabilities *less than or equal* to the probability of the observed outcome is

$$0.0249 + 0.0124 + 0.0004 = \boxed{0.0377}$$

*p-value*