Introduction to Hypothesis Testing

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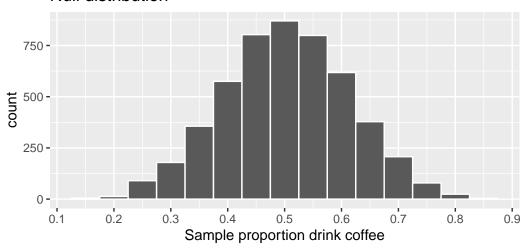
Hypotheses and significance level (steps 1 and 2)

```
\begin{split} H_0: \\ H_A: \\ \alpha = \\ \text{The following is our data:} \\ & \times <-\text{c(rep(1, 7), rep(0, 13))} \\ & \text{n <- length(x)} \\ & \text{p_hat <- mean(x)} \end{split}
```

Simulating under the null (step 3)

Visualize the null distribution of \hat{p} :

Null distribution



pink line = observed sample proportion

p-value:

Conclusion in context (step 4)

Decision and rationale:

Conclusion in context:

Possible scenarios

		State of world	
		H_0 true	H_0 false
Decision	Fail to reject H_0		
	Reject H_0		