

First Quarto in Stat 343

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Quarto

Quarto enables you to weave together content and executable code into a finished document. To learn more about Quarto see <https://quarto.org>.

Running Code

When you click the **Render** button a document will be generated that includes both content and the output of embedded code. You can embed code like this:

```
head(Fumbles)
```

	team	rank	W	L	week1	week2	week3
1	Air Force	53	8	4	4	2	2
2	Akron	19	1	11	2	3	2
3	Alabama	68	9	3	0	3	2
4	Arizona	31	7	4	1	0	2
5	Arizona St	94	5	6	2	1	3
6	Arkansas	46	9	2	0	1	0

Formulas from Stats

Moment generating functions

Exponential $X \sim \text{Exp}(\lambda)$: $M_X(t) = \frac{\lambda}{\lambda - t}$

Poisson $X \sim \text{Pois}(\lambda)$: $M_X(t) = e^{\lambda(e^t - 1)}$

Quadratic formula

Applies to finding zeros of $ax^2 + bx + c = 0$

$$x = \frac{-b}{2a} \pm \frac{\sqrt{b^2 - 4ac}}{2a}$$

Stating hypotheses

$$H_0 : \pi = \frac{1}{3} \text{ vs. } H_a : \pi \neq \frac{1}{3}$$

$$H_0 : \pi = \frac{1}{3} \text{ vs. } H_a : \pi > \frac{1}{3}$$

Plotting

```
gf_dist("norm", params=c(100, 15)) |> gf_labs(title="Normal distribution for IQ")
```

