

An Example R Markdown Document

(A Subtitle Would Go Here if This Were a Class)

Steven V. Miller



14/08/2021

Section 1

Pop Songs and Political Science

Subsection 1

Morning Train

Sheena Easton and Game Theory

Sheena Easton describes the following scenario for her baby:

1. Takes the morning train
2. Works from nine 'til five
3. Takes another train home again
4. Finds Sheena Easton waiting for him

Sheena Easton and her baby are playing a **zero-sum (total conflict) game**.

- ▶ Akin to Holmes-Moriarty game (see: von Neumann and Morgenstern)
- ▶ Solution: **mixed strategy**

Subsection 2

Never Gonna Give You Up

Rick Astley's Re-election Platform

Rick Astley's campaign promises:

- ▶ Never gonna give you up
- ▶ Never gonna let you down
- ▶ Never gonna run around and desert you
- ▶ Never gonna make you cry
- ▶ Never gonna say goodbye
- ▶ Never gonna tell a lie and hurt you.

Whereas these pledges conform to the preferences of the **median voter**, we expect Congressman Astley to secure re-election.

Subsection 3

Caribbean Queen

Caribbean Queen and Operation Urgent Fury

In 1984, Billy Ocean released “Caribbean Queen”.

- ▶ Emphasized sharing the same dream
- ▶ Hearts beating as one

“Caribbean Queen” is about the poor execution of Operation Urgent Fury.

- ▶ Echoed JCS chairman David Jones’ frustrations with military establishment.

Billy Ocean is advancing calls for what became the Goldwater-Nichols Act.

- ▶ Wanted to take advantage of **economies of scale**, resolve **coordination problems** in U.S. military.

Subsection 4

Good Day

The Good Day Hypothesis

We know the following about Ice Cube's day.

1. The Lakers beat the Supersonics.
2. No helicopter looked for a murder.
3. Consumed Fatburger at 2 a.m.
4. Goodyear blimp: "Ice Cube's a pimp."

This leads to two different hypotheses:

- ▶ H_0 : Ice Cube's day is statistically indistinguishable from a typical day.
- ▶ H_1 : Ice Cube is having a good (i.e. greater than average) day.

These hypotheses are tested using archival data of Ice Cube's life.

Section 2

Rendering This Document

The Problem of Rendering in Markdown

One big disadvantage to Markdown: compiling.

Here's what it would look like from Terminal



Figure 1: Markdown Call

Nobody got time for that.

One Alternative: RStudio



Another Alternative: Rscript

Another option: noninteractive Rscript

- ▶ I prefer this option since I tend to not like GUIs.
- ▶ Assumes you're on a Linux/Mac system.

Save this to a .R script (call it whatever you like)

- ▶ Note that the “s” in “utils” package is cut off in verbatim environment below.

```
#!/usr/bin/Rscript --vanilla --default-packages=base,stats,util
library(knitr)
library(rmarkdown)
file <- list.files pattern='.Rmd'
rmarkdown::render(file)
```

Make it executable. Double click or run in Terminal.

- ▶ Keep a copy in each directory, but keep only one .Rmd per directory.

Section 3

Conclusion

Conclusion

Beamer markup is messy. Markdown is much more elegant.

- ▶ Incorporating R with Markdown makes Markdown that much better.
- ▶ Rendering Markdown → Beamer requires minimal Rscript example.
- ▶ I provide such a script to accompany this presentation.