

Reports in RMarkdown

About the task

Using **Rmarkdown** in Rstudio your task is to create a document with a table and a graph. You must submit this document as either an *html* or *pdf* using the **knitr** and **rmarkdown** packages. Ideally, this document should consider aesthetics and be able to be read by people from a non-data science background. However, please display your code in the final document (`echo = TRUE`).

The data

You will be using data `mpg` which is an included mock dataset in the `ggplot2` package

manufacturer	model	displ	year	cyl	trans	drv	cty	hwy	fl	class
audi	a4	1.8	1999	4	auto(l5)	f	18	29	p	compact
audi	a4	1.8	1999	4	manual(m5)	f	21	29	p	compact
audi	a4	2	2008	4	manual(m6)	f	20	31	p	compact
audi	a4	2	2008	4	auto(av)	f	21	30	p	compact
audi	a4	2.8	1999	6	auto(l5)	f	16	26	p	compact
audi	a4	2.8	1999	6	manual(m5)	f	18	26	p	compact

Task 1

Include a table in your knitted document that has the `mpg` dataframe, **but** present only a subset of this dataset, matching the following conditions:

- manual transmission cars (`trans` column)
- have 8 cylinders (`cyl` column)
- is 4 wheel drive (`drv` column)

Additionally, present this table/dataframe in descending miles per gallon (`mpg`) on the highway (`hwy` column).

Task 2

Using the original `mpg` dataset generate a graph showing the difference in `mpg` on the highway (`hwy` column) on the y-axis and year on the x-axis. Group the lines according to the manufacturer and provide 95 % CI for the mean estimates. In your graph only show the results for the following three manufacturers:

- audi
- honda
- nissan

```
lower.ci = mean - 1.96*(sd(hwy)/sqrt(n()))  
upper.ci = mean + 1.96*(sd(hwy)/sqrt(n()))
```