

Average mpg of mtcars Dataset

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This is the Rmd file with the requested datatable that shows the average mile per gallon of each car make in the mtcars dataset.

The code I used below highlights how I thought about answering this problem.

First, I used regular expressions to extract all car makes from the car models in the dataset.

```
mtcars_avg <- mtcars %>%  
  rownames_to_column(var = "car") %>%  
  mutate(make = str_extract(car, "[A-Z] [a-z]+"))
```

Next, I grouped my previously saved table by make, and calculated the mean mpg for each make using the `tapply` function in the `apply` family.

```
cars <- data.frame(tapply(mtcars_avg$mpg, mtcars_avg$make, mean)) %>%  
  rownames_to_column(var = "Make") %>%  
  rename(mpg = "tapply.mtcars_avg.mpg..mtcars_avg.make..mean.") %>%  
  mutate(mpg = round(mpg, 2))
```

Finally, I used `knitr`'s `kable` function to clean up the table for presentation.

```
kable(cars,  
      caption = "Average miles per gallon for each car make",  
      booktabs = TRUE)
```

Table 1: Average miles per gallon for each car make

Make	mpg
Cadillac	10.40
Camaro	13.30
Chrysler	14.70
Datsun	22.80
Dodge	15.50
Duster	14.30
Ferrari	19.70
Fiat	29.85
Ford	15.80
Honda	30.40
Hornet	20.05
Javelin	15.20
Lincoln	10.40

Make	mpg
Lotus	30.40
Maserati	15.00
Mazda	21.00
Merc	19.01
Pontiac	19.20
Porsche	26.00
Toyota	27.70
Valiant	18.10
Volvo	21.40