

# Homework 1 STAT40830-Adv Data Prog with R

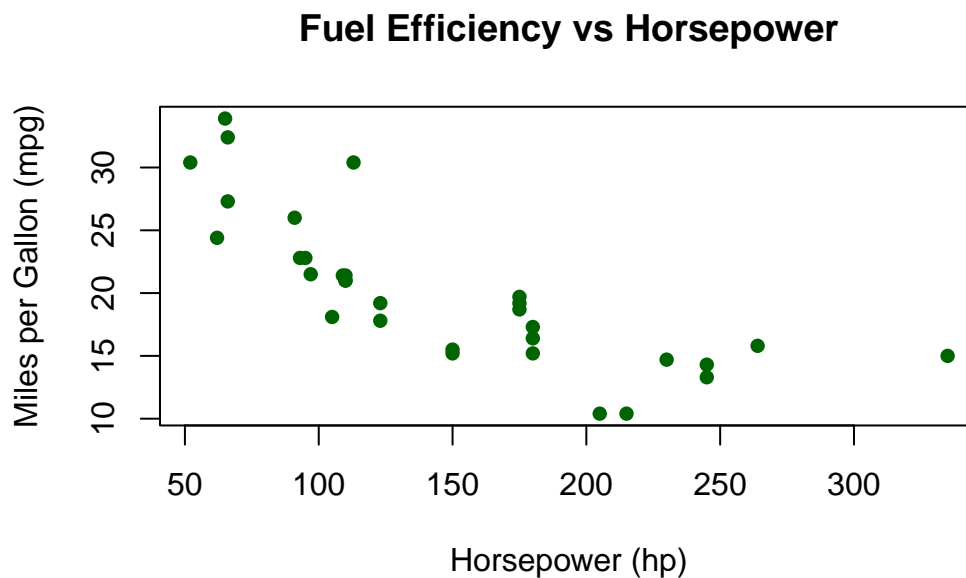
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## Introduction

The **mtcars** dataset is a built-in dataset in R that provides information on various attributes of 32 car models, such as horsepower, weight, and fuel efficiency.

In this mini-report, we explore how *horsepower (hp)* affects *fuel efficiency (miles per gallon or mpg)* using a simple scatter plot.

## Plot: Horsepower vs Miles per Gallon



## Interpretation

The scatter plot shows a **negative trend** — as *horsepower* increases, *miles per gallon* tends to decrease. This suggests that more powerful cars generally have lower fuel efficiency, which aligns with expectations.

This quick visualization highlights how graphical summaries can reveal real-world trade-offs in car performance.