



```
1 library(ggplot2)
2 data <- read.csv("mtcars.csv")
3 # Perform linear regression
4 linear_model <- lm(hp ~ mpg, data = data)
5 # Perform multiple regression
6 multiple_model <- lm(hp ~ mpg + disp, data = data)
7 # Perform polynomial regression
8 poly_model <- lm(hp ~ poly(mpg, degree = 2), data = data)
9 # Evaluate model performance
10 summary(linear_model)
11 summary(multiple_model)
12 summary(poly_model)
13 # Visualize regression results
14 ggplot(data, aes(x = hp, y = hp)) +
15   geom_point() +
16   geom_smooth(method = "lm", se = FALSE, color = "blue") +
17   labs(title = "Regression Analysis", x = "Independent Variable", y = "Dependent Variable")
18
```