A

Estimated y (dependent variable)

Value of x_1 (coffee cups)

Value of x_2: Non-smoker x=0, Smoker x=1

$$\hat{y} = \beta_0 + \beta_1 x_1 + \beta_2 x_2$$

Intercept: estimated y when xs all zero

Slope of line

Difference between lines

Systolic blood pressure minus 120
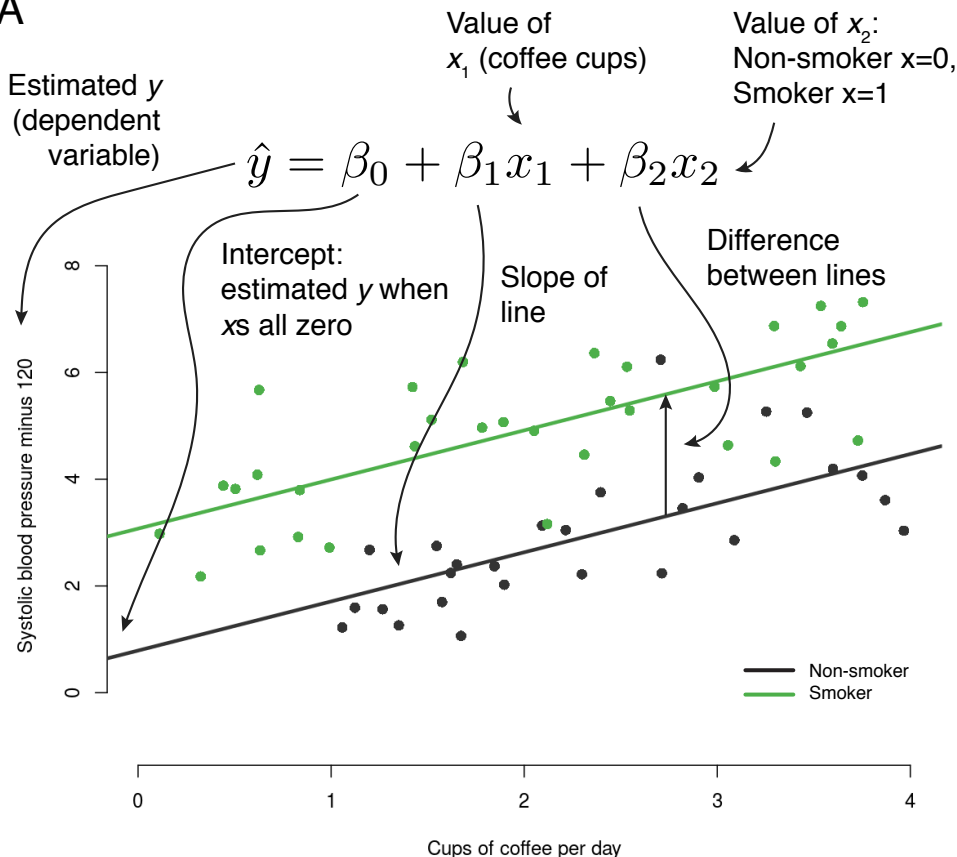
Non-smoker
Smoker

Cups of coffee per day

B Linear regression (`lm`) output

```
Call:
lm(formula = y ~ coffee + smoking, data = df)

Residuals:
    Min      1Q  Median      3Q     Max
-1.4589 -0.6176  0.0043  0.6715  1.8748

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.68661    0.24292   2.827  0.00648 **
coffee       1.00496    0.09781  10.275 1.38e-14 ***
smoking      2.47581    0.22694  10.910 1.40e-15 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.8724 on 57 degrees of freedom
Multiple R-squared:  0.8144,    Adjusted R-squared:  0.8079
F-statistic: 125.1 on 2 and 57 DF,  p-value: < 2.2e-16
```

Function call

Distribution of residuals

Results

Adjusted R^2

$$s\hat{B}P = \beta_0 + \beta_{coffee}x_{coffee} + \beta_{smoking}x_{smoking}$$