



How Estimate  $f(X)$ ?

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- This allows us to predict  $Y$  when we know  $X$ :  $\hat{Y} = \hat{f}(X)$

► **Parametric methods** (we estimate the components of  $f$ )

1. Functional form assumption e.g.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_p X_p + \varepsilon$$

2. Estimation: a way to get  $\hat{\beta}_j$  (e.g. OLS)



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# Example

