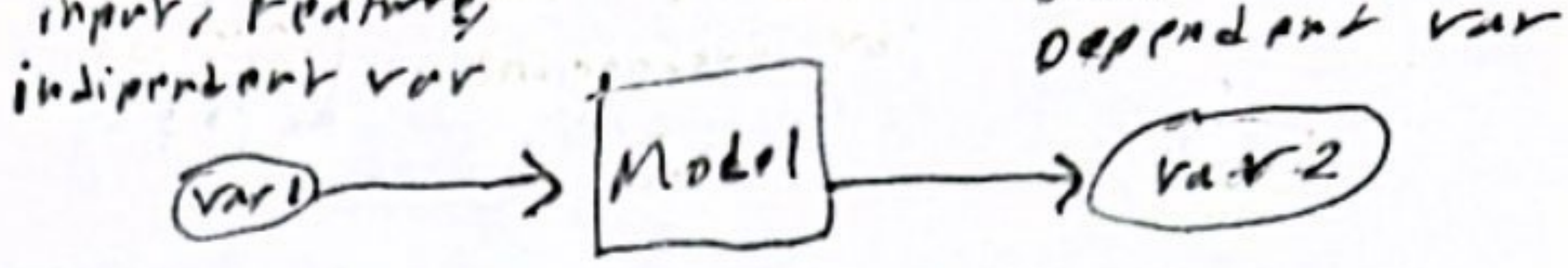
Model

- a model in ML is a Mathamatical repersentation that is trained to recognize patterns in data an make predictions or classifications based on those patterns.

(Ex of comon type)



- a mapping function between input and output

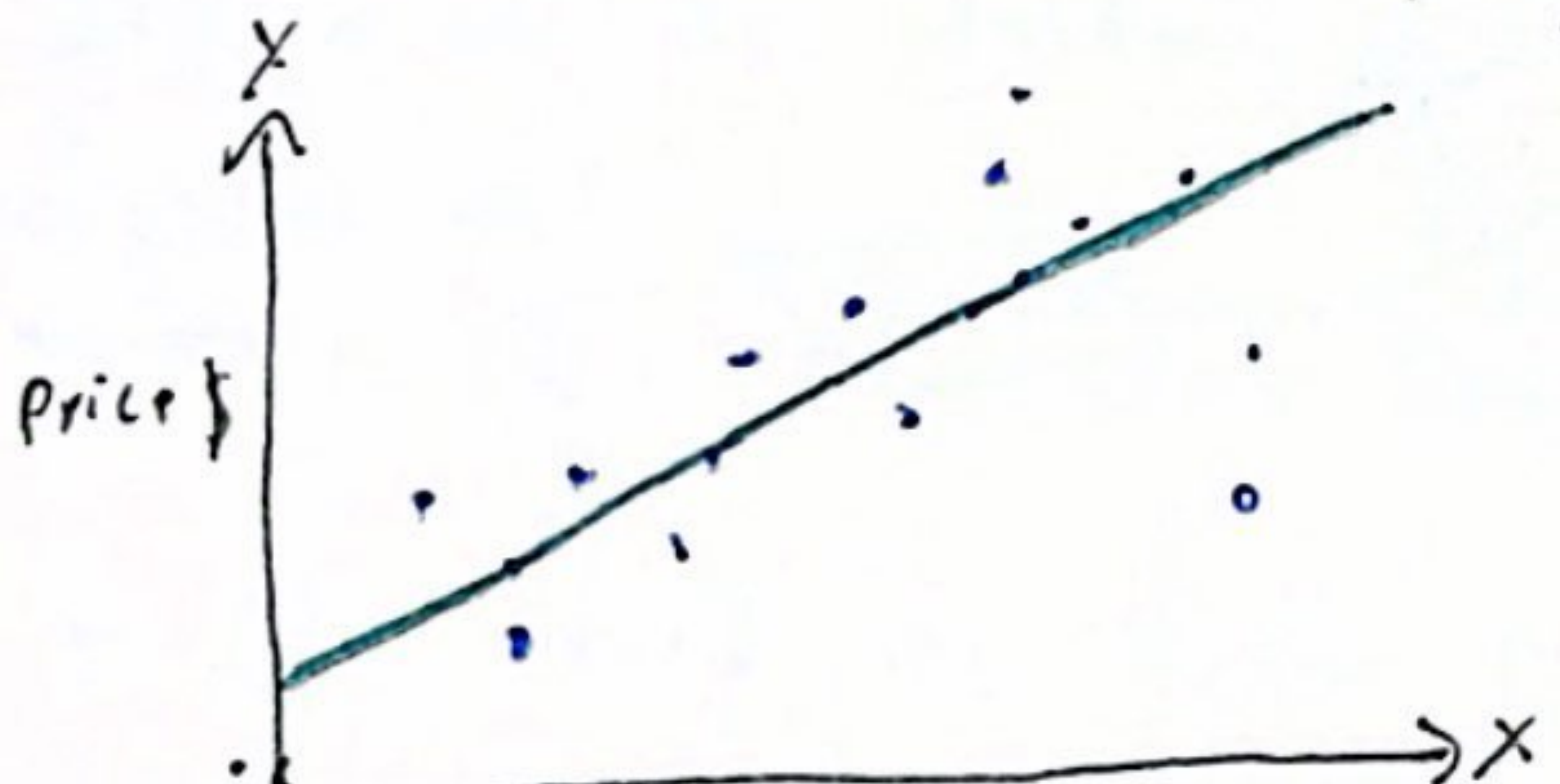
★ in linear regretion the model is the final regretion line : $Y_i = \beta_0 + \beta_1 X_i$ → indipendent var

- Y_i → dependent var
- β_0 → const / intercepit
- β_1 → slope / coifficient

form = ($y = mx + b$) — m → slope, b → intercept

Ex : we might hav a model that predicts house prices based on square fotage of house.

- This model predicts a liner relationship



- here we plot all house prices against sq ft and put a line of best fit through it
- we find it says: on avg each sq foot add 200$ / SQFT
- then $Y(x) = 200x + 1000$
- the model is the intercept / slope of the line

★ Now after traning if we want to predict price of 250 SQFT house ⇒ SQFT = 250

Model: $200x + 1000 = 200(250) + 1000$

$= 51{,}000$ $ is the pridiction of the model