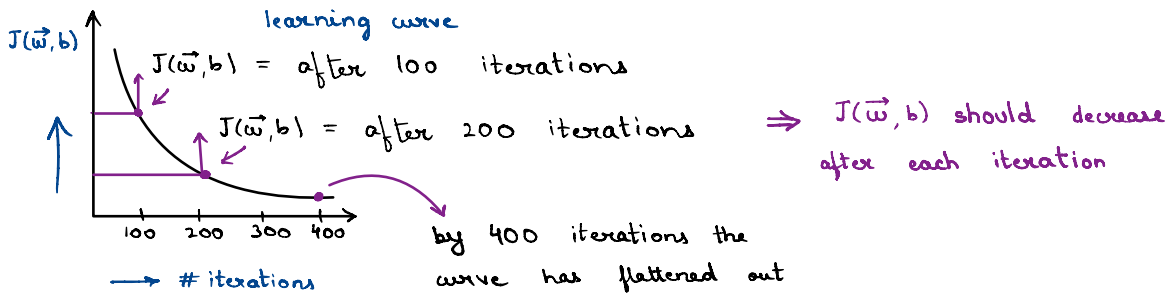


objective :-  $\min_{\vec{w}, b} J(\vec{w}, b)$



# iterations needed varies :- 30 - 2000 ...

### Automatic convergence test

We decide an  $\epsilon$  value. If the decrease in  $J(\vec{w}, b)$  is less than  $\epsilon$  then declare convergence. (for eg.  $\epsilon$  can be  $0.001 \rightarrow 10^{-3}$ )

# Using graphs is better to analyze convergence because it can be hard to find the adequate value for epsilon.