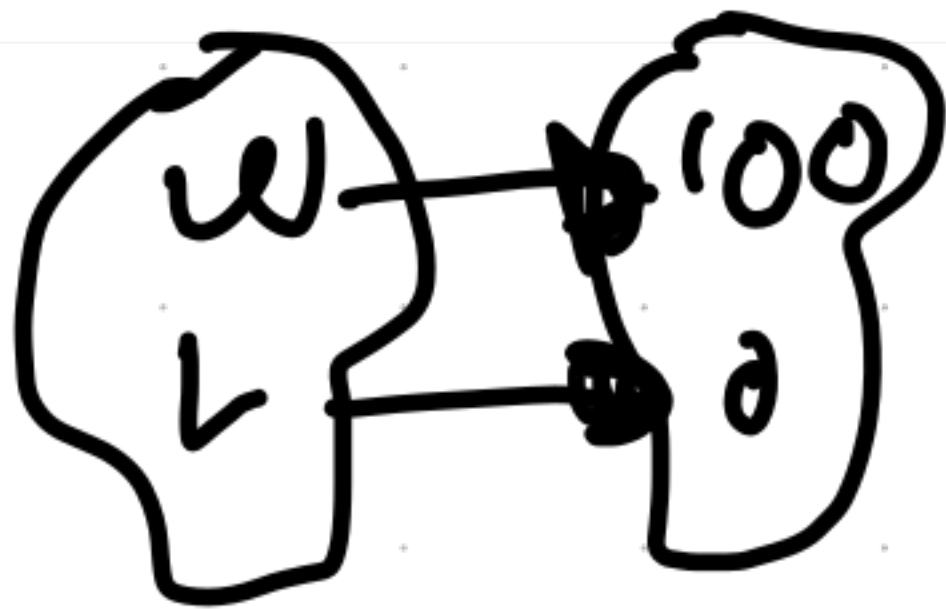$$E[X] = \sum_{x_i \in X} P(x_i) x_i$$

x is a r.v.

$X : \Omega \to \mathbb{R}$

$$= .6 \cdot 100 + .4 \cdot 0 = 60$$

$P(W) = .6 \qquad X_i = 100$

$P(L) = .4 \qquad X_i = 0$
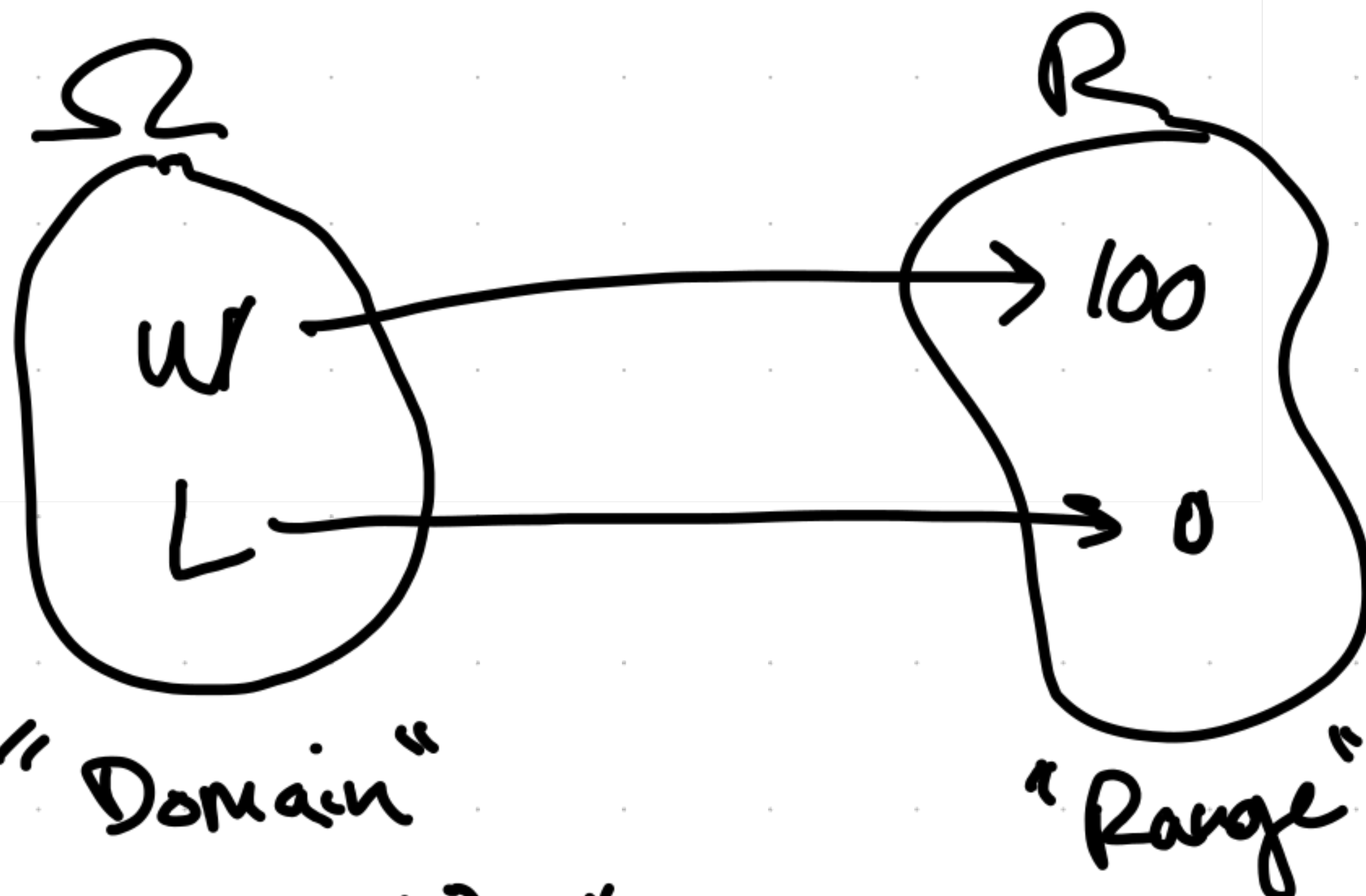
r.v. X is a function

$$X: \Omega \longrightarrow \mathbb{R}$$

$X_i = L \in \Omega$
or
$X_i = W \in \Omega$

Ω

W

L

"Domain"

$\mathbb{R}$

100

0

"Range"

$P(W) = .6 \quad P(L) = .4$