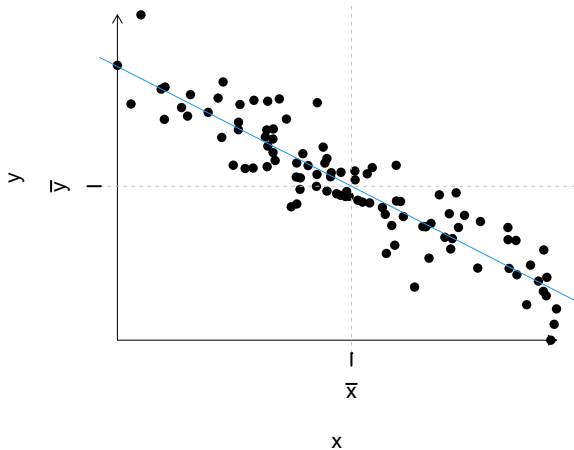


$$-\hat{\sigma}_x \hat{\sigma}_y < \text{cov}(x, y) < 0$$



$$\text{cov}(x, y) = -\hat{\sigma}_x \hat{\sigma}_y$$

