$$\bar{X} = \frac{1}{n}\sum x_i$$

$$E[\bar{X}] = ?$$

$$= E\left[\frac{1}{n}\sum_{i=1}^{n} x_i\right]$$

$$= \frac{1}{n} E\left[\sum_{i=1}^{n} x_i\right]$$

$$= \frac{1}{n} E[(x_1 + x_2 + x_3 \cdots + x_n)]$$

in X is i.i.d., then

$$x_1 = x_2 = x_3$$

$$= \frac{1}{n} E[X + X + X]$$

$$= \frac{1}{n} E[nX]$$

$$= \frac{n}{n} E[X]$$