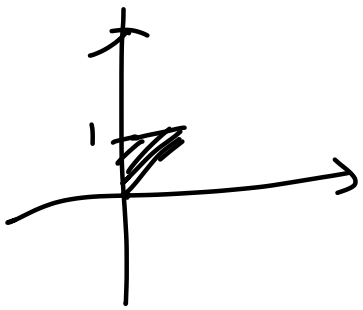

$$E(x) = \int_x^1$$

$$E(y) = \int_0^y$$

$$\text{1st empty} : \frac{99}{100}$$

$$\text{2nd empty} : \frac{99}{100} \times \frac{98}{99} = \frac{98}{100}$$

$$X_i = 1 \text{ (empty)} = \frac{100-i}{100}$$

$$\sum_{i=1}^{99} \frac{100-i}{100}$$

$$= \frac{1}{100} + \frac{2}{100} + \cdots + \frac{99}{100}$$

$$= \frac{(100)\,99 \div 2}{100}$$

$$= 49.5$$