

Regneregler for middelværdi

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Middelværdien for data beregnes med formelen

$$\mu = E(X) = \sum_{i=1}^n x_i \cdot P(X = x_i) = \sum_{i=1}^n x_i \cdot P_i$$

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$$E(a) = a$$

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$$E(a) = a$$

$$\begin{aligned} E(a) &= \sum_{i=1}^n a \cdot P_i \\ &= a \cdot 1 \end{aligned}$$

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$$E(a) = a$$

$$\begin{aligned} E(a) &= \sum_{i=1}^n a \cdot P_i \\ &= a \cdot 1 \\ &= a \end{aligned}$$

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$$\begin{aligned} E(a) &= a \\ E(a \cdot X) &= a \cdot E(X) \end{aligned}$$

$$E(a \cdot X) = \sum_{i=1}^n a \cdot x_i \cdot P_i$$

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$$\begin{aligned} E(a \cdot X) &= \sum_{i=1}^n a \cdot x_i \cdot P_i \\ &= a \cdot \sum_{i=1}^n x_i \cdot P_i \end{aligned}$$

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$$E(X + Y) = E(X) + E(Y)$$

$$E(a \cdot X) = \sum_{i=1}^n a \cdot x_i \cdot P_i$$

$$= a \cdot \sum_{i=1}^n x_i \cdot P_i$$

$$= a \cdot E(X)$$

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$$E(X + Y) = \sum_{i=1}^n \sum_{j=1}^m (x_i + y_j) \cdot P_{i,j}$$

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$$\begin{aligned} E(X + Y) &= \sum_{i=1}^n \sum_{j=1}^m (x_i + y_j) \cdot P_{i,j} \\ &= \sum_{i=1}^n \sum_{j=1}^m x_i \cdot P_{i,j} + y_j \cdot P_{i,j} \end{aligned}$$

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