

Concept of Odds in Favor and Against

Data Science and A.I. Lecture Series

Bindeshwar Singh Kushwaha

PostNetwork Academy

Odds in Favor and Against

- **Odds in Favor:** Ratio of favorable cases to unfavorable cases:

$$\text{Odds in favor of } A = m : (n - m)$$

Odds in Favor and Against

- **Odds in Favor:** Ratio of favorable cases to unfavorable cases:

$$\text{Odds in favor of } A = m : (n - m)$$

- **Odds Against:** Ratio of unfavorable cases to favorable cases:

$$\text{Odds against } A = (n - m) : m$$

Odds in Favor and Against

- **Odds in Favor:** Ratio of favorable cases to unfavorable cases:

$$\text{Odds in favor of } A = m : (n - m)$$

- **Odds Against:** Ratio of unfavorable cases to favorable cases:

$$\text{Odds against } A = (n - m) : m$$

- **Relationship with Probability:**

Odds in Favor and Against

- **Odds in Favor:** Ratio of favorable cases to unfavorable cases:

$$\text{Odds in favor of } A = m : (n - m)$$

- **Odds Against:** Ratio of unfavorable cases to favorable cases:

$$\text{Odds against } A = (n - m) : m$$

- **Relationship with Probability:**

- $P(A) = \frac{m}{n}$

Odds in Favor and Against

- **Odds in Favor:** Ratio of favorable cases to unfavorable cases:

$$\text{Odds in favor of } A = m : (n - m)$$

- **Odds Against:** Ratio of unfavorable cases to favorable cases:

$$\text{Odds against } A = (n - m) : m$$

- **Relationship with Probability:**

- $P(A) = \frac{m}{n}$
- $P(\text{not } A) = 1 - P(A)$

Example

- **Problem:**

Example

- **Problem:**
 - Odds in favor of event A are $4 : 3$.

Example

- **Problem:**

- Odds in favor of event A are $4 : 3$.
- What is the probability of A ?

Example

- **Problem:**

- Odds in favor of event A are $4 : 3$.
- What is the probability of A ?

- **Solution:**

Example

- **Problem:**

- Odds in favor of event A are $4 : 3$.
- What is the probability of A ?

- **Solution:**

- Favorable cases: $m = 4$

Example

- **Problem:**

- Odds in favor of event A are $4 : 3$.
- What is the probability of A ?

- **Solution:**

- Favorable cases: $m = 4$
- Unfavorable cases: $n - m = 3$

Example

- **Problem:**

- Odds in favor of event A are $4 : 3$.
- What is the probability of A ?

- **Solution:**

- Favorable cases: $m = 4$
- Unfavorable cases: $n - m = 3$
- Total cases: $n = 4 + 3 = 7$

Example

- **Problem:**

- Odds in favor of event A are $4 : 3$.
- What is the probability of A ?

- **Solution:**

- Favorable cases: $m = 4$
- Unfavorable cases: $n - m = 3$
- Total cases: $n = 4 + 3 = 7$
- $P(A) = \frac{m}{n} = \frac{4}{7}$

Example

- **Problem:**

Example

- **Problem:**

- Odds in favor of A are $4 : 3$.

Example

- **Problem:**

- Odds in favor of A are $4 : 3$.
- Odds against A are $5 : 8$.

Example

- **Problem:**

- Odds in favor of A are $4 : 3$.
- Odds against A are $5 : 8$.

- **Solution:**

Example

- **Problem:**

- Odds in favor of A are $4 : 3$.
- Odds against A are $5 : 8$.

- **Solution:**

- **Odds in favor of A :**

Example

- **Problem:**

- Odds in favor of A are $4 : 3$.
- Odds against A are $5 : 8$.

- **Solution:**

- **Odds in favor of A :**

- $m = 4, n - m = 3, n = 4 + 3 = 7$

Example

- **Problem:**

- Odds in favor of A are $4 : 3$.
- Odds against A are $5 : 8$.

- **Solution:**

- **Odds in favor of A :**

- $m = 4, n - m = 3, n = 4 + 3 = 7$
- $P(A) = \frac{4}{7}$

Example

- **Problem:**

- Odds in favor of A are $4 : 3$.
- Odds against A are $5 : 8$.

- **Solution:**

- **Odds in favor of A :**

- $m = 4, n - m = 3, n = 4 + 3 = 7$

- $P(A) = \frac{4}{7}$

- **Odds against A :**

Example

- **Problem:**

- Odds in favor of A are $4 : 3$.
- Odds against A are $5 : 8$.

- **Solution:**

- **Odds in favor of A :**

- $m = 4, n - m = 3, n = 4 + 3 = 7$
- $P(A) = \frac{4}{7}$

- **Odds against A :**

- $n - m = 5, m = 8, n = 5 + 8 = 13$

Example

- **Problem:**

- Odds in favor of A are $4 : 3$.
- Odds against A are $5 : 8$.

- **Solution:**

- **Odds in favor of A :**

- $m = 4, n - m = 3, n = 4 + 3 = 7$

- $P(A) = \frac{4}{7}$

- **Odds against A :**

- $n - m = 5, m = 8, n = 5 + 8 = 13$

- $P(A) = \frac{m}{n} = \frac{8}{13}$

Example

- **Problem:**

Example

- **Problem:**

- If $P(A) = \frac{3}{5}$, find:

Example

- **Problem:**

- If $P(A) = \frac{3}{5}$, find:
 - Odds in favor of A .

Example

- **Problem:**

- If $P(A) = \frac{3}{5}$, find:
 - Odds in favor of A .
 - Odds against A .

Example

- **Problem:**

- If $P(A) = \frac{3}{5}$, find:
 - Odds in favor of A .
 - Odds against A .

- **Solution:**

Example

- **Problem:**

- If $P(A) = \frac{3}{5}$, find:
 - Odds in favor of A .
 - Odds against A .

- **Solution:**

- $P(A) = \frac{m}{n} = \frac{3}{5}$, so:

Example

- **Problem:**

- If $P(A) = \frac{3}{5}$, find:
 - Odds in favor of A .
 - Odds against A .

- **Solution:**

- $P(A) = \frac{m}{n} = \frac{3}{5}$, so:
 - $m = 3, n = 5, n - m = 5 - 3 = 2$

Example

- **Problem:**

- If $P(A) = \frac{3}{5}$, find:
 - Odds in favor of A .
 - Odds against A .

- **Solution:**

- $P(A) = \frac{m}{n} = \frac{3}{5}$, so:
 - $m = 3, n = 5, n - m = 5 - 3 = 2$
 - Odds in favor of A : $3 : 2$

Example

- **Problem:**

- If $P(A) = \frac{3}{5}$, find:
 - Odds in favor of A .
 - Odds against A .

- **Solution:**

- $P(A) = \frac{m}{n} = \frac{3}{5}$, so:
 - $m = 3, n = 5, n - m = 5 - 3 = 2$
 - Odds in favor of A : $3 : 2$
- Odds against A : $2 : 3$

Website

www.postnetwork.co

Website

www.postnetwork.co

YouTube Channel

www.youtube.com/@postnetworkacademy

Website

www.postnetwork.co

YouTube Channel

www.youtube.com/@postnetworkacademy

Facebook Page

www.facebook.com/postnetworkacademy

Website

www.postnetwork.co

YouTube Channel

www.youtube.com/@postnetworkacademy

Facebook Page

www.facebook.com/postnetworkacademy

LinkedIn Page

www.linkedin.com/company/postnetworkacademy

Thank You!