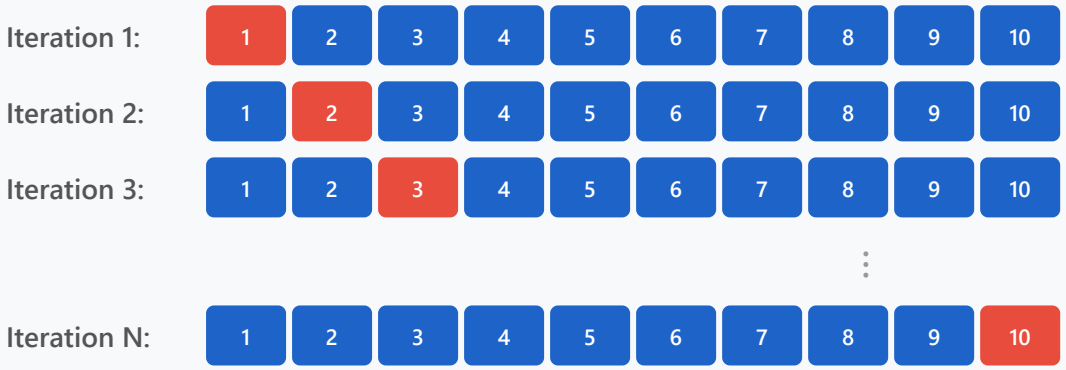
Leave-One-Out Cross Validation (LOOCV)

🔄 Process: K = N (where N = dataset size)



📊 Final Performance

$$\text{Performance} = \Sigma(\text{score}_1 + \text{score}_2 + \ldots + \text{score}_n) \;/\; N$$

Average of N individual predictions where N = total samples

✅ Advantages

- 📊 Maximum use of data (N-1 samples for training)
- 🎯 Nearly unbiased estimate of model performance

❌ Disadvantages

- ⏱️ Computationally expensive (N model trainings)
- 📈 High variance in performance estimates

✓ Deterministic (no randomness in splits)

⚠ Not practical for large datasets

💡 When to Use

Best for small datasets where data is precious • Avoid for large datasets due to computational cost