# Lab Exp 12: Redis Sorted Sets – Simple Leaderboard Simulation

## Scenario

We simulate a simple game leaderboard using Redis Sorted Sets.

Each player is a member, and their score is the sorted value.

### 1. Add players with scores (ZADD):

ZADD leaderboard:game1 1500 Alice 1200 Bob 1800 Charlie 1600 David

### 2. View leaderboard (highest to lowest):

ZREVRANGE leaderboard:game1 0 -1 WITHSCORES

### 3. Update a player's score:

ZINCRBY leaderboard:game1 700 Bob

### 4. Get updated leaderboard:

ZREVRANGE leaderboard:game1 0 -1 WITHSCORES

### 5. Get a player's rank:

ZREVRANK leaderboard:game1 Bob

**Note**: Rank is 0-based.

### 6. Get a player's score:

ZSCORE leaderboard:game1 Alice

**7. Get top 3 players:**

ZREVRANGE leaderboard:game1 0 2 WITHSCORES

**8. Remove a player:**

ZREM leaderboard:game1 David

**Summary - Why Redis Sorted Sets are ideal:**

- Automatically sorted by score

- Fast rank lookup

- Efficient updates

- Scales well