

Cricket Scorecard Summary

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Description

This project summarizes the top performers in both batting and bowling for both teams after the completion of a 20-over match. The top 4 performers are determined and displayed based on their performance data, which is stored and managed using Binary Search Trees (BST). The project is primarily built in C++ and demonstrates the application of Data Structures and Algorithms.

Features

- Displays top 4 batting performers for each team
- Displays top 4 bowling performers for each team
- Utilizes Binary Search Trees (BST) for efficient data storage and retrieval
- Simple command-line interface

Functionalities

1. Input Validation for Batting in 1st Innings:

- Ensure the total balls faced by the last player in the 1st innings does not exceed 120 balls (20 overs).
- Prompt the user to provide valid input if the total balls faced exceed the limit.
- Add extra runs (wide, no-ball, etc.) after the total score of batting has been completed.

2. Input Validation for Bowling in 1st Innings:

- Ensure the total wickets taken by bowlers match the total wickets entered.
- Account for run-out wickets in the bowlers' wickets column.
- Ensure the total runs and balls recorded to match the input provided for batting.

3. Input Validation for Batting in 2nd Innings:

- Allow data entry for the 2nd innings only if the total score is less than the 1st innings' score or the team has lost fewer than 10 wickets.
- Validate that runs and balls inputted match the expected values based on the 1st innings data.

- Add extra runs (wide, no-ball, etc.) after the total score of batting has been completed.

4. Input Validation for Bowling in 2nd Innings:

- Ensure bowling statistics in the 2nd innings are consistent with the batting data for the 2nd innings.
- Validate that the total wickets taken by bowlers match the number of wickets fallen.
- Ensure the total runs and balls recorded for bowlers match the input provided for 2nd innings batting.

5. Error Handling and Prompting for Correct Input:

- Provide clear error messages and prompt the user to re-enter valid data if any of the above conditions are not met.

6. Summary Display:

- Display the top 4 performers in batting and bowling for each team after validating all inputs.
- Ensure the displayed data is accurate and consistent with the validated input.

These functionalities ensure robust input validation, accurate handling of extra runs, and comprehensive error handling for your project, providing a seamless and accurate data entry and summary process.

Output Screenshots:

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--> Instructions :
-> FROM BOWLING SIDE, ANY BOWLER CAN BE BOWL AT MAX 24 BALLS i.e. MAXIMUM 4 OVERS
-> FORM BATTING SIDE, TWO PLAYERS WOULD BE GONE NOT OUT AT THE END OF INNING
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ENTER NAME OF TEAM 1: India
ENTER NAME OF TEAM 2: Pakistan
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1st Inning:

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-----India-----

INNIGING-1 : Batting Statistics of India:

Player          Name              Runs   Balls
-----
Player1         Rahul              28     20
Player2         Rohit              28     16
Player3         Virat              60     44
Player4         Sky                13     10
Player5         Rishabh            14     12
Player6         Hardik              0       2
Player7         Deepak             16     14
Player8         Shami               0       0
Player9         RaviB              8       2

Extra(s) : 14

Run Out(s) : 1

India : 181/7 (20.0)
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-----Pakistan-----

INNIGING-1 : Bowling Statistics of Pakistan:

Player          Name              Balls   Runs   Wickets
-----
Player1         Naseem             24     45     1
Player2         Hasnain            24     38     1
Player3         Haris              24     38     1
Player4         Nawaz              24     25     1
Player5         Shadab             24     35     2

India : 181/7 (20.0)
```

2nd Inning:

-----Pakistan-----			
INNIGING-2 : Batting Statistics of Pakistan:			
Player	Name	Runs	Balls

Player1	Rizwan	71	51
Player2	Babar	14	10
Player3	Fakhar	15	18
Player4	Nawaz	42	20
Player5	Haider	14	11
Player6	Asif	16	5
Player7	Iftikhar	10	3
Extra(s) : 2			
Run Out(s) : 0			
Pakistan : 184/5 (19.4)			

-----India-----				
INNIGING-2 : Bowling Statistics of India:				
Player	Name	Balls	Runs	Wickets

Player1	Shami	24	40	1
Player2	Avesh	22	27	1
Player3	RaviB	24	26	1
Player4	Hardik	24	44	1
Player5	Chahal	24	47	1
Pakistan : 184/5 (19.4)				

Scorecard Summary:

INNING-1 :

India

181/7

(20.0)

Virat

60 (44)

Shadab

2-35

4.0

Rohit

28 (16)

Naseem

1-45

4.0

Rahul

28 (20)

Haris

1-38

4.0

Deepak

16 (14)

Hasnain

1-38

4.0

INNING-2 :

Pakistan

184/5

(19.4)

Rizwan

71 (51)

Chahal

1-47

4.0

Nawaz

42 (20)

Hardik

1-44

4.0

Asif

16 (5)

Shami

1-40

4.0

Fakhar

15 (18)

Avesh

1-27

3.4

Pakistan WON WITH 5 WICKETS REMAINING
