



Mawlana Bhashani Science and Technology University
Project Report

Department: Computer Science and Engineering

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Project Title: Cricket Scoresheet

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Introduction : My project is Cricket Scoresheet. Calculating the score of a cricket match is very difficult for a person. It will take more time to store and find information (runs, overs, wickets, etc.) and calculate ball by ball manually. So, the user needs to record that information in a computerized way in which they can store that information easily within a short time. The user can easily store runs, wickets ball by ball and can display the scoreboard at anytime while the match is running. This will make calculating the score of a cricket match easier.

Objective : A cricket match consists of many parameters like total run, over, wicket, batter run etc. Simultaneously keeping track of those information is quite impossible. This project helps us to store and show those information effectively and efficiently.

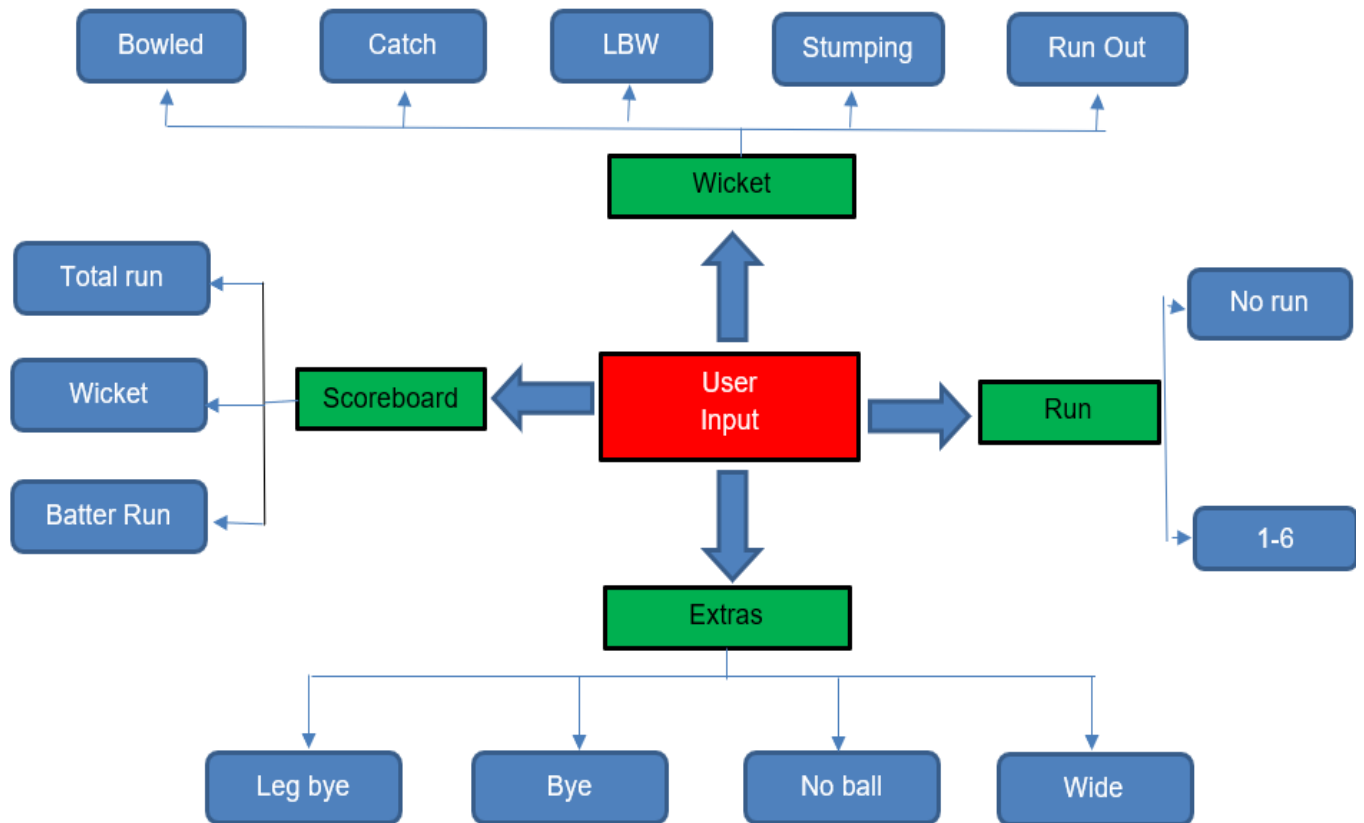
Purpose : To save time and memory. And make the game more enjoyable.

Requirments :

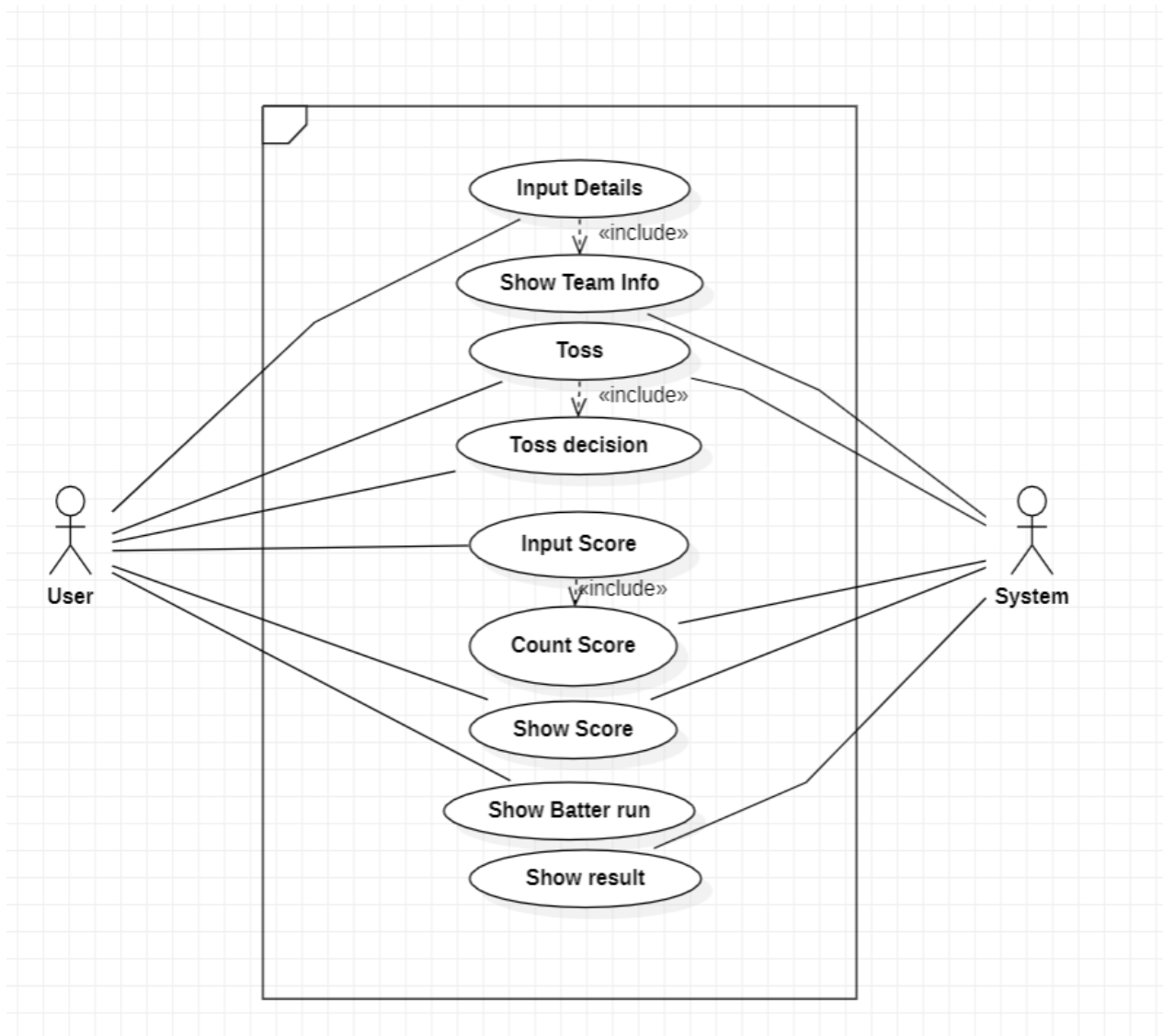
- **Project Requirements:**
 - Count every possible result of the match.
 - Show scoreboard everytime.
 - Count batter run.
 - Show result.
- **Software Requirements:**
 - Windows xp
 - CodeBlocks
 - Notepad
- **Hardware Components:**
 - Hard Disk – 5GB
 - RAM – 2GB
 - Processor – core i3

1. Analysis and Domain Modeling

a. Conceptual Model



b. Use Case Diagram

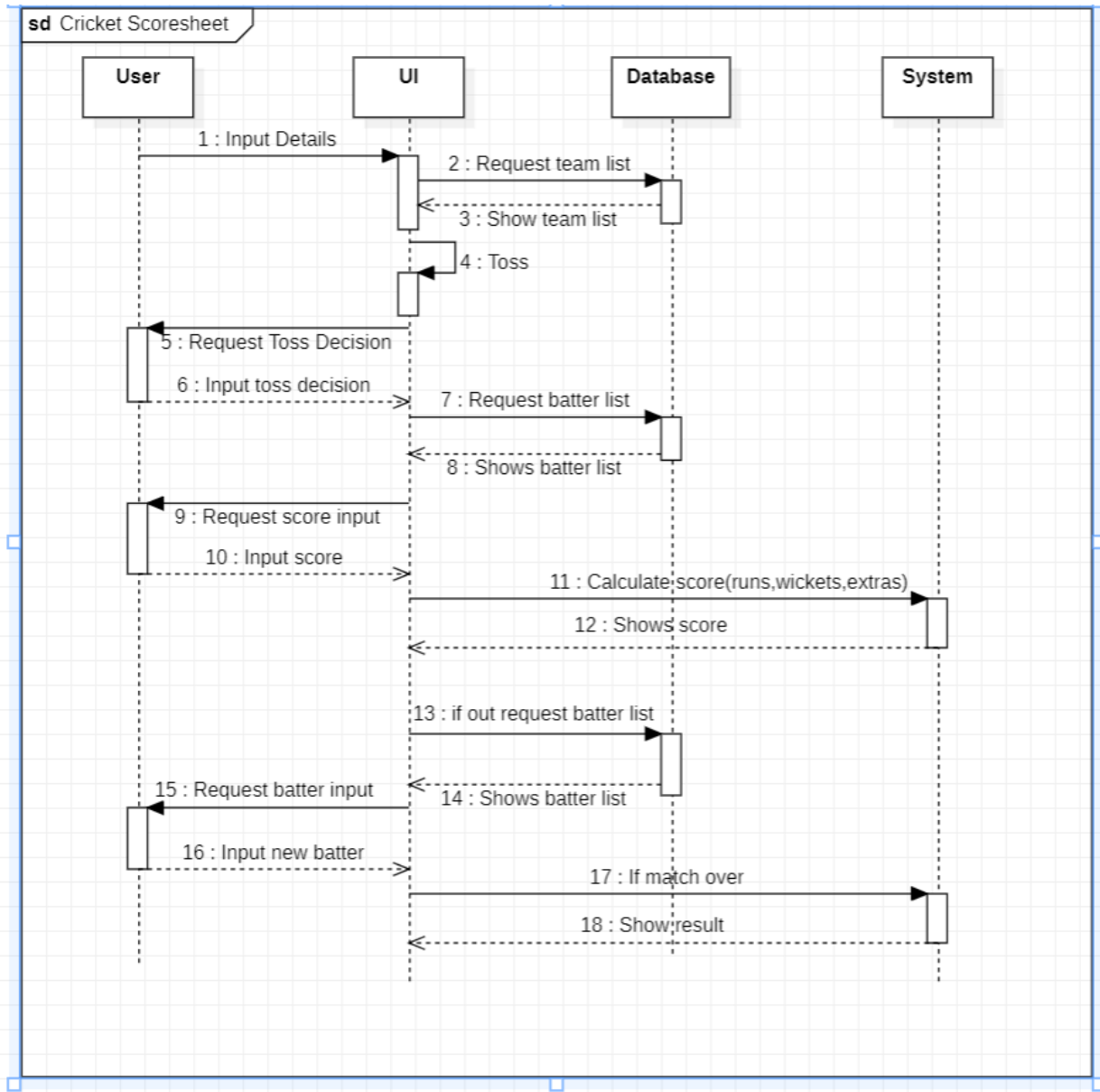


c. Persistent Data Storage

Yes, the system needs to save data by using (.txt) file to store player details like name and skills.

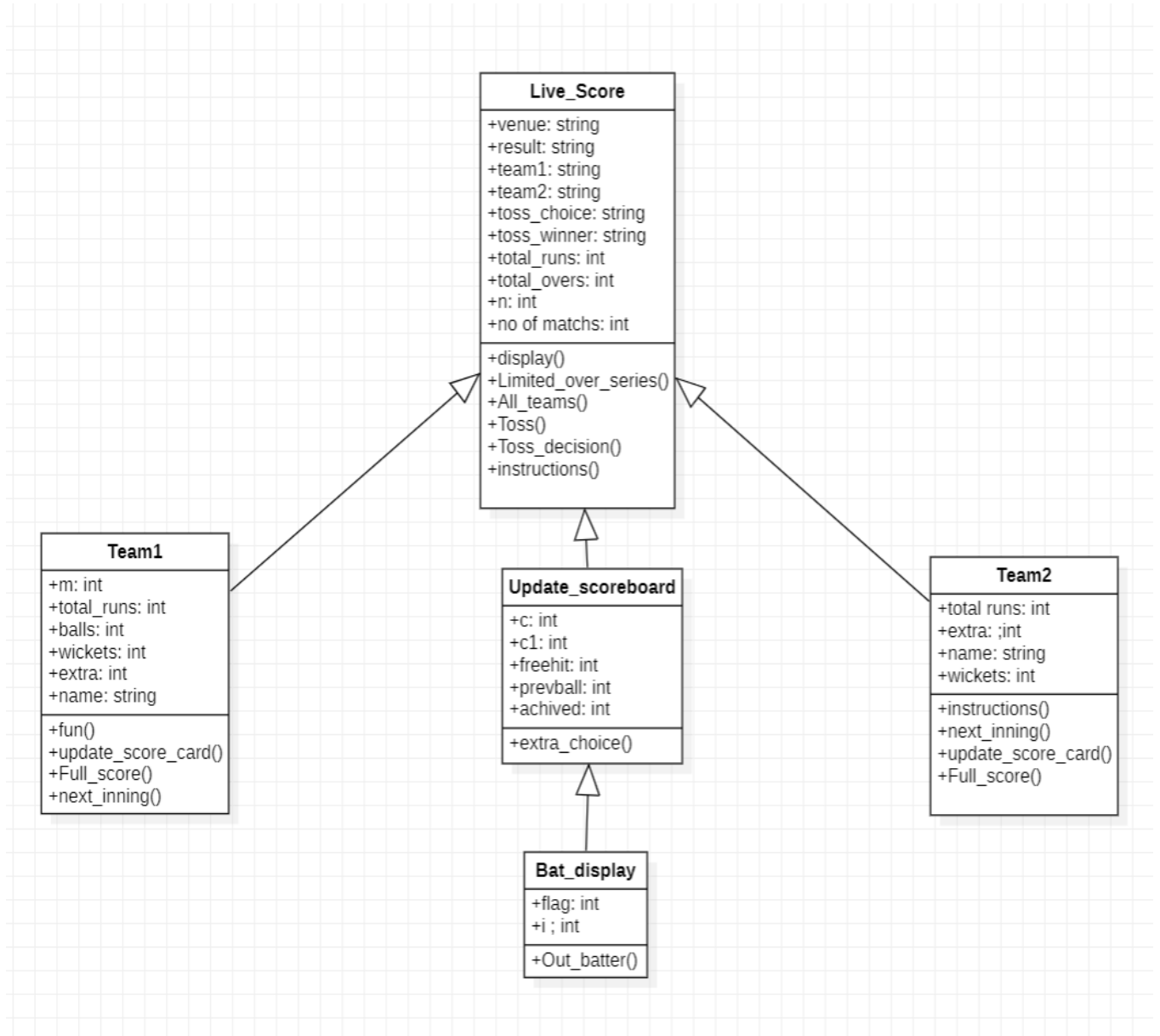
2. Interaction Diagram

Sequence Diagram for use case cricket scoresheet.



3. Class Diagram and Interface Specification

a. Class Diagram



b. Data Types and Operation Signatures

In this class diagram, after entering to the console we can see the operations of class (Live_Score), this class consists of some data types like int,string. As this is the parent class of other two class Team1 and Team2 it requires some integer type variables like total_run,total over and to store informations like venue,team1,team2 we specified string type variables such as venue,team1,toss_choice etc. This class also consists of some operations like display() which displays the basic inputs and takes input. Operation All_teams() shows the team lists to play against. Then we move to the next phase which is selecting two teams. Then we keep 1 team in class(Team1) and other team in class(Team2). This classes defines the batting team and balling team. To count runs,wickets,extra,overs we have some variables total_runs,balls,ex,overs,rem_balls. Class Bat_display counts stores and shows the informations abouts batters. And lastly update_scoreboard class calculates runs for every balls with the help of operations like update_score_card(),extra_choice().

4. Algorithms and Data Structures

Yes. This application uses some data structures like array and pair.

5. User Interface Design and Implementation

I used C++ language to develop entire project. To design UI I used some basic STL functions and gotoxy function. And to develop backend project I used different library functions,templates and switch cases. I used codeblocks IDE.

Modules : The modules used in the project are as follows-

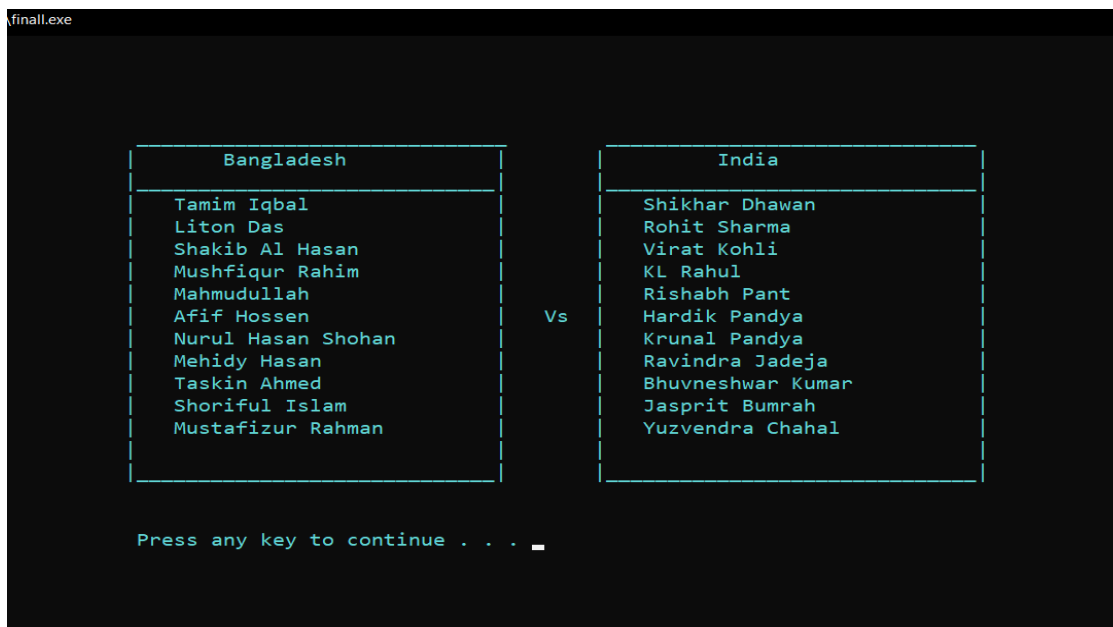


The screenshot shows a terminal window with two sections. The first section is titled "Game Details" and contains four input fields: "Venue : Mirpur", "Team 1 : 1", "Team 2 : 2", and "OVER : 1". The second section is titled "Team Information" and contains a list of seven teams: "1. Bangladesh", "2. India", "3. Pakistan", "4. England", "5. Australia", "6. New Zealand", and "7. South Africa".

Game Details	
Venue	: Mirpur
Team 1	: 1
Team 2	: 2
OVER	: 1

Team Information	
1.	Bangladesh
2.	India
3.	Pakistan
4.	England
5.	Australia
6.	New Zealand
7.	South Africa

Fig 1 : Game details window which appears at the very start and takes basic inputs about the game.



The screenshot shows a terminal window with two columns of player names. The left column is titled "Bangladesh" and lists ten players: Tamim Iqbal, Liton Das, Shakib Al Hasan, Mushfiqur Rahim, Mahmudullah, Afif Hossen, Nurul Hasan Shohan, Mehidy Hasan, Taskin Ahmed, Shoriful Islam, and Mustafizur Rahman. The right column is titled "India" and lists ten players: Shikhar Dhawan, Rohit Sharma, Virat Kohli, KL Rahul, Rishabh Pant, Hardik Pandya, Krunal Pandya, Ravindra Jadeja, Bhuvneshwar Kumar, Jasprit Bumrah, and Yuzvendra Chahal. The two columns are separated by the text "Vs". At the bottom, there is a prompt "Press any key to continue . . . _".

Bangladesh	Vs	India
Tamim Iqbal		Shikhar Dhawan
Liton Das		Rohit Sharma
Shakib Al Hasan		Virat Kohli
Mushfiqur Rahim		KL Rahul
Mahmudullah		Rishabh Pant
Afif Hossen		Hardik Pandya
Nurul Hasan Shohan		Krunal Pandya
Mehidy Hasan		Ravindra Jadeja
Taskin Ahmed		Bhuvneshwar Kumar
Shoriful Islam		Jasprit Bumrah
Mustafizur Rahman		Yuzvendra Chahal

Press any key to continue . . . _

Fig 2 : It shows the playing two teams and their player lists.

```
It's Bangladesh's call !!  
H or T ?  
H  
  
Toss won by India  
What do you want to do?? (ball/bat)  
bat_
```

Fig 3 – Toss window shows up in the next window and winner gets to choose whether to bat or ball.

```
1. Shikhar Dhawan  
2. Rohit Sharma  
3. Virat Kohli  
4. KL Rahul  
5. Rishabh Pant  
6. Hardik Pandya  
7. Krunal Pandya  
8. Ravindra Jadeja  
9. Bhuvneshwar Kumar  
10. Jasprit Bumrah  
11. Yuzvendra Chahal  
Choose 2 Batsman :  
Choose Strike Batter :  
1  
Choose Non-Strike Batter :  
2
```

Fig 4 – Next we need to choose two batters which we can do from here.



Fig 5 – We can see the scoreboard anytime. Here we are seeing a batter getting out.

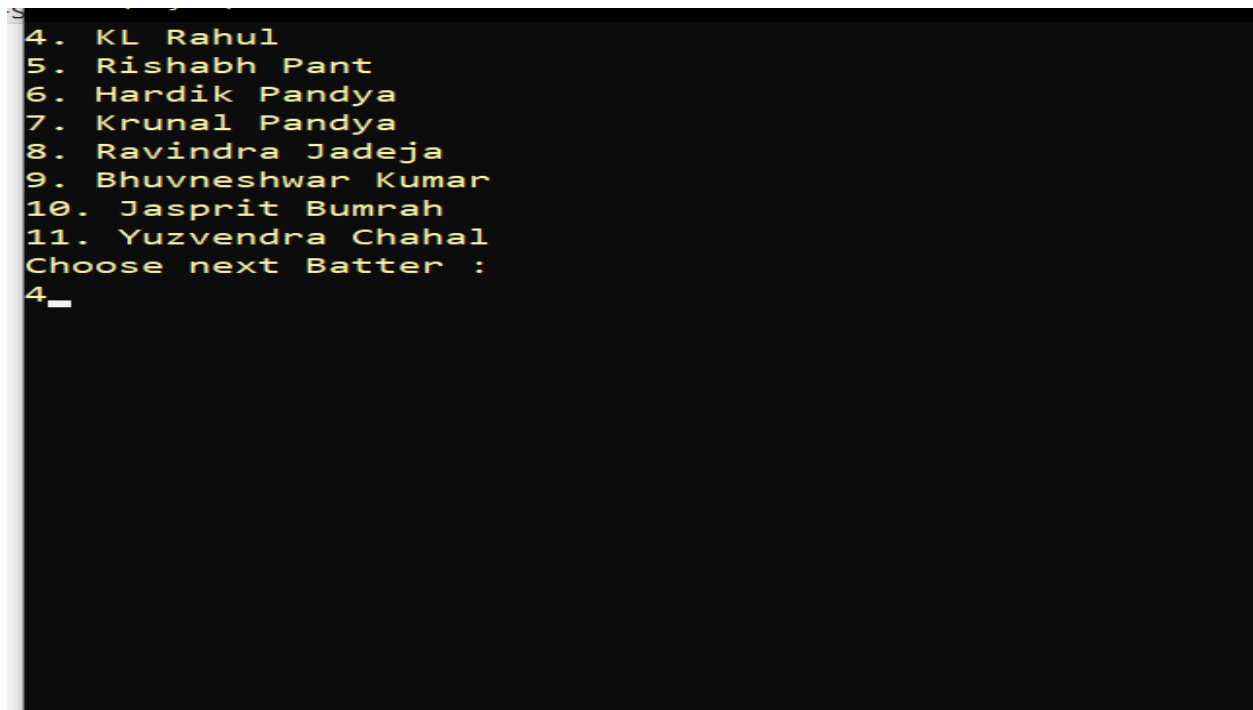


Fig 6- Whenever a batter gets out a new window appears with the list of next batters.

India	Ov.	1.0	10-2
Shikhar Dhawan	8(4)	S.R - 200	
Rohit Sharma	1(1)	S.R - 100	
Virat Kohli	0(1)	0	
KL Rahul	0(0)	0	
Rishabh Pant	0(0)	0	
Hardik Pandya	0(0)	0	
Krunal Pandya	0(0)	0	
Ravindra Jadeja	0(0)	0	
Bhuvneshwar Kumar	0(0)	0	
Jasprit Bumrah	0(0)	0	
Yuzvendra Chahal	0(0)	0	

Fig 7 – When first innings is over, this window shows the summery of the first innings.

```

WELCOME TO SECOND INNINGS
TARGET : 11_

```

Fig 8- We move to the next innings with the target runs.

Bangladesh	Ov. 0.3	9-0
Tamim Iqbal	7(2)	S.R - 350
Liton Das	2(1)	S.R - 200
Shakib Al Hasan	0(0)	0
Mushfiqur Rahim	0(0)	0
Mahmudullah	0(0)	0
Afif Hossen	0(0)	0
Nurul Hasan Shohan	0(0)	0
Mehidy Hasan	0(0)	0
Taskin Ahmed	0(0)	0
Shoriful Islam	0(0)	0
Mustafizur Rahman	0(0)	0

Fig 9 – Anytime we can see the next innings details with the help of instruction.

```

Bangladesh WON BY 10 wickets and 1 balls reaminging

Process returned 0 (0x0)   execution time : 233.418 s
Press any key to continue.

```

Fig 10 – We can see the result when a team wins the game or the match is tied. Congratulations to Bangladesh for winning the match against India.

6. Design of Tests

a Test Cases

1. Game Details
2. Team Informations
3. Toss
4. Toss Decision

5. Select Striking batter
6. Select Non Striking Batter
7. Total Run Count
8. Total Wickets Count
9. Total Overs Count
10. Extra Runs Count
11. Total Overs Count
12. Striking Batter run count
13. Non Striking Batter run count
14. 2nd Innings Score Count
15. Remaining Run Count
16. Full Scorecard
17. Final Result

References:

1. https://www.w3schools.com/cpp/cpp_syntax.asp
2. <https://www.geeksforgeeks.org/templates-cpp/>
3. <https://www.geeksforgeeks.org/pair-in-cpp-stl/>

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Signature of supervisor

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Date