Introduction

A cricket scorecard is the card/program which helps to store match scores and statistics effectively in a device which helps the umpires as well as the audience to be updated about the scores easily. This project aims to make that using C as the programming language. With features to record and display runs, wickets and overs, this program proves to be very helpful from games played in our college compound to the games of the World Cup (with some additions to the code). So, the next time you sit to record stats, open up our program and enjoy an efficient way of record-keeping!

Objective

To make a cricket scorecard program to display and store scores using C as the programming language.

Scope

The program can be used in various games played in the college compounds as an effective way to keep scores accurately and safely and also preventing quarrels among players or audience regarding the scores.

And, with changes and additions in the code, this program can also be used in big games such as the Indian Premier League or the World Cup after the addition of features like automatic scorekeeping and umpire’s call.

Algorithm

An overall algorithm for the program is shown below:

Step 1: Start.

Step 2: Initialize int variables for runs, wickets, wide runs, loops and other variables.

Step 3: Initialize char variables for team names and filenames.

Step 4: Initialize file pointers.

Step 5: Input names of teams, number of overs, toss winner and choice, etc.

Step 6: Open a file with the filename the same as the team name for easier access.

Step 7: Print a box according to the layout and include data such as runs, wickets, overs, balls and team names in it.

Step 8: Ask the user for the choice (either runs, wicket, wide or no ball) and update the scorecard accordingly.

Step 9: To do this, run nested loops with i and j; i represents overs and j represents balls.

Step 10: Ask for choice from the user.

Step 11: If the choice is runs, add that to the runs of the team. If it is wickets, add that to the wickets lost by the team. And if it is wide or no ball, ask if there are any runs and decrease the value of j by one; j--.

Step 12: Update the scores on the screen and print them on the team file at the same time.

Step 13: if i<overs or wickets<10, goto step 9.

Step 14: If not, break out of the loop and get ready for team 2.

Step 15: Ask the user and update the runs and wickets according to steps 9 to 14.

Step 16: If runs of second team exceeds that of first team, then break out of the loop.

Step 17: Compare the runs of the two teams and print the winner.

Step 18: Stop.

Modules

1. toss()
   This module is used to determine which team will bat first. It gets the names of Team 1 and Team 2. Then it asks the user for the winner of the toss and then what they will choose. Then, it returns the value accordingly.

2. ballss()
   This module is used to display the balls and runs scores in them in a given over.

3. main()
   This module holds the maximum amount of the program. It does all the things from asking about input to processing all the stats and displaying and printing them.

Source code:

The source code for the program looks like this:

```
#include<stdio.h>
#include<string.h>
#include<stdlib.h>
#include<conio.h>
#include<unistd.h>
void ballss(int o, char r[10],int wr)
{
        int k;
                                for(k=0;k<o;k++)
                                if(r[k]=='o')
                                printf("(W)");
                                else if(r[k]=='w')
                                printf("(WD%d)",wr);
                                else if(r[k]=='n')
                                printf("(NB%d)",wr);
                                else
                                printf("(%c)",r[k]);
}
int toss(char team1[10],char team2[10])
{
        char tosswin[10],tc;
        printf("Who won the toss?");
        scanf("%s",&tosswin);
        printf("Enter B for batting and F for fielding");
        scanf(" %c",&tc);

        if(strcmp(team1,tosswin)==0)
                if(tc=='b'|| tc=='B')
                {
                        printf("%s chose to bat\n",team1);
                        sleep(1);
                        return 1;
                }
                else
                        {
                                printf("%s chose to field\n",team1);
                                sleep(1);
                                return 2;
```

```
                }
        else
                if(tc=='b'|| tc=='B')
                {
                        printf("%s chose to bat\n",team2);
                        sleep(1);
                        return 2;
                }
                else
                {
                        printf("%s chose to field\n",team2);
                        sleep(1);
                        return 1;
                }

}
main()
{
        int runst1=0,runst2=0, overt1=0,overcon, balls, wicketst1=0,wicketst2=0,
boundaries,k,o=0,b,choice;
        int i,j,runs,wr,t;
        FILE *fp1,*fp2,*fp3;
        char c,team1[10],team2[10],r[10],filename[20],teamname[10],content[100];
        printf("Enter Team 1");
        scanf("%s",&team1);
        printf("Enter Team 2");
        scanf("%s",&team2);
        printf("Enter number of overs");
        scanf("%d",&overcon);
        t=toss(team1,team2);
        if(t==2)
        {
                team2[strcspn(team2,"\n")]=0;
                sprintf(filename,"%s.txt",team2);
                fp1=fopen(filename,"w");
        }
        else
        {
                team1[strcspn(team1,"\n")]=0;
                sprintf(filename,"%s.txt",team1);
```

```
                fp1=fopen(filename,"w");
        }
        if(fp1==NULL)
        printf("Error in creating team file");
        system("cls");
        sleep(1);
        printf("\t\t\t\t----------------------------\n");
        sleep(1);
   printf("\t\t\t\t|       Cricket Match       |\n");
   sleep(1);
   printf("\t\t\t\t|        %s VS %s         |\n",team1,team2);
   printf("\t\t\t\t----------------------------\n");
   sleep(2);
        printf("Are ");
        sleep(1);
        printf("You ");
        sleep(1);
        printf("Ready?\n");
   sleep(2);
   printf("Press any key to continue");
   getch();
        for(i=0;i<=overcon;i++)
        {
                o=0;
                for(j=0;j<6;j++)
                {
                        hello:
                        b=j+1;
                        if(i<overcon)
                        fprintf(fp1,"%d.%d\t",i,b);
                        system("cls");
                        printf("\t\t\t  ------------------------------------------------------------
----------------------");
                        if(t==1)
                        {
                        printf("\n\t\t\t|        %s        Batting        |\t\t\t%d-%d\t\t\t|\tovers
%d.%d\t|\n",team1,runst1,wicketst1,i,j);

                        }
                        else
```

```
                        {
                        printf("\n\t\t\t|        %s        Batting        |\t\t\t%d-%d\t\t\t|\tovers
%d.%d\t|\n",team2,runst1,wicketst1,i,j);
                        t=2;

                        }
                        printf("\t\t\t|----------------------------------------------------------------
----------------------|\n");
                        printf("\t\t\t   ");
                        ballss(o,r,wr);
                        printf("\n\t\t\t|----------------------------------------------------------------
------------------------|\n");
                        if(k==5)
                        k=0;
                        if(i==overcon || wicketst1==10)
                        goto out1;
                        printf("\nRuns:0 1 2 3 4 6 Wicket:o Wide:w No Ball:n\n");
                        printf("Enter case");
                        scanf(" %c",&c);
                        r[o]=c;
                        o++;
                        switch(c)
                        {
                                case '0':
                                        fprintf(fp1,"0\t");
                                        break;
                                case '1':
                                        fprintf(fp1,"1\t");
                                        runst1=runst1+1;
                                        break;
                                case '2':
                                        fprintf(fp1,"2\t");
                                        runst1=runst1+2;
                                        break;
                                case '3':
                                        fprintf(fp1,"3\t");
                                        runst1=runst1+3;
                                        break;
                                case '4':
                                        fprintf(fp1,"4\t");
```

```
                runst1=runst1+4;
                break;
            case '6':
                fprintf(fp1,"6\t");
                runst1=runst1+6;
                break;
            case 'w':
                printf("Enter wide runs");
                scanf("%d",&wr);
                runst1=runst1+wr;
                fprintf(fp1,"Wide %d\t",wr);
                if(j==0)
                j=0;
                else
                j--;
                break;
            case 'o':
                wicketst1++;
                printf("Enter runs if runout");
                scanf("%d",&runs);
                runst1=runst1+runs;
                fprintf(fp1,"Wicket %d\t",runs);
                break;
            case 'n':
                printf("Enter no ball runs");
                scanf("%d",&wr);
                runst1=runst1+wr;
                fprintf(fp1,"No Ball %d\t",wr);
                if(j==0)
                j=0;
                else
                j--;
                break;
            default:
                printf("Choose a valid option");
                goto hello;
        }
        fprintf(fp1,"%d-%d\n",runst1,wicketst1);
    }
}
```

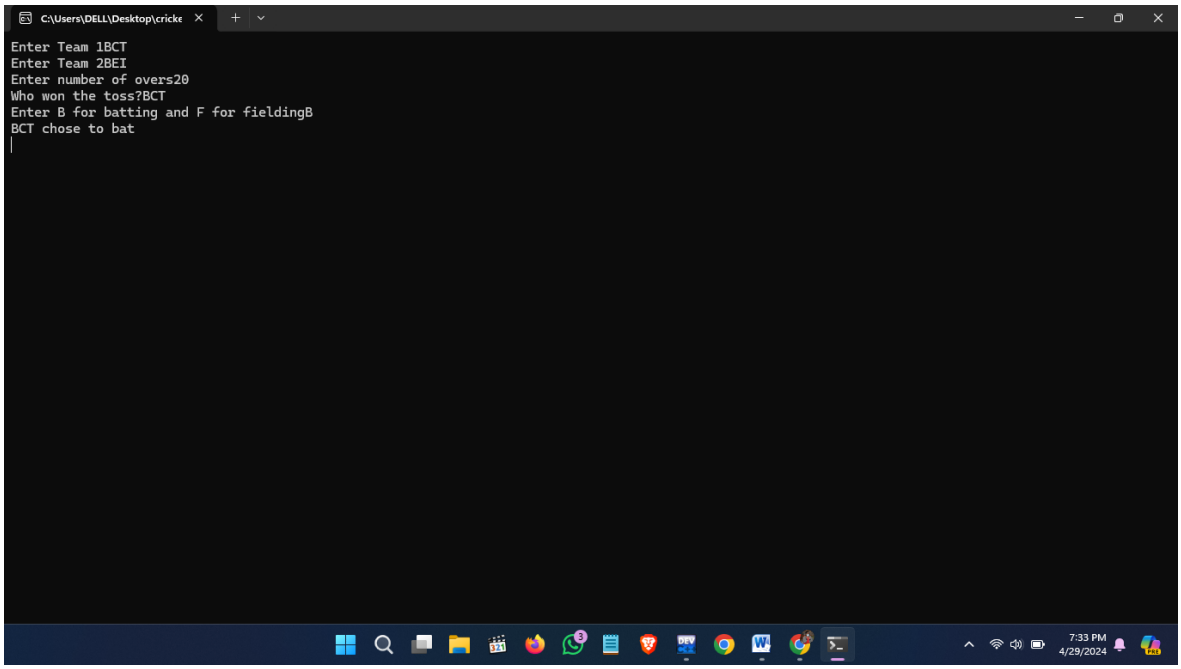
```
out1:
        fclose(fp1);
printf("Ready for the next half? Press any key to continue");
getch();
        if(t==1)
{
        team2[strcspn(team2,"\n")]=0;
        sprintf(filename,"%s.txt",team2);
        fp2=fopen(filename,"w");
}
else
{
        team1[strcspn(team1,"\n")]=0;
        sprintf(filename,"%s.txt",team1);
        fp2=fopen(filename,"w");
}
for(i=0;i<=overcon;i++)
{
        o=0;
        for(j=0;j<6;j++)
        {
                hello1:
                b=j+1;
                if(i<overcon)
                fprintf(fp2,"%d.%d\t",i,b);
                system("cls");
                printf("\t\t\t  ----------------------------------------------------------------
----------------------");
                if(t==1)
                printf("\n\t\t\t|       %s       Batting       |\t\t\t%d-%d\t\t\t|\tovers
%d.%d\t|\n",team2,runst2,wicketst2,i,j);
                else
                {
                printf("\n\t\t\t|       %s       Batting       |\t\t\t%d-%d\t\t\t|\tovers
%d.%d\t|\n",team1,runst2,wicketst2,i,j);
                t=2;
                }
                printf("\t\t\t|----------------------------------------------------------------
----------------------|\n");
                printf("\t\t\t   ");
```

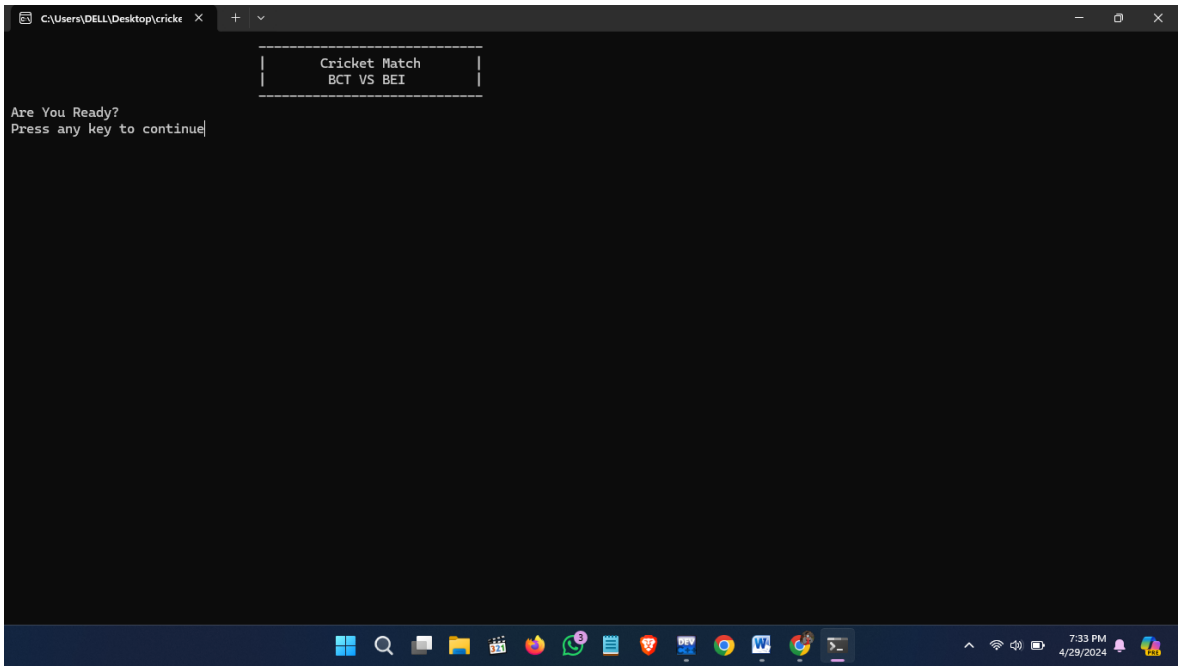
```
                        ballss(o,r,wr);
                        printf("\n\t\t\t|-------------------------------------------------------------
-------------------------|\n");
                        if(k==5)
                        k=0;
                        if(i==overcon || wicketst2==10 || runst2>runst1)
                        goto out2;
                        printf("\nRuns:0 1 2 3 4 6 Wicket:o Wide:w No Ball:n\n");
                        printf("Enter case");
                        scanf(" %c",&c);
                        r[o]=c;
                        o++;
                        switch(c)
                        {
                                case '0':
                                        fprintf(fp2,"0\t");
                                        break;
                                case '1':
                                        fprintf(fp2,"1\t");
                                        runst2=runst2+1;
                                        break;
                                case '2':
                                        fprintf(fp2,"2\t");
                                        runst2=runst2+2;
                                        break;
                                case '3':
                                        fprintf(fp2,"3\t");
                                        runst2=runst2+3;
                                        break;
                                case '4':
                                        fprintf(fp2,"4\t");
                                        runst2=runst2+4;
                                        break;
                                case '6':
                                        fprintf(fp2,"6\t");
                                        runst2=runst2+6;
                                        break;
                                case 'w':
                                        printf("Enter wide runs");
                                        scanf("%d",&wr);
```

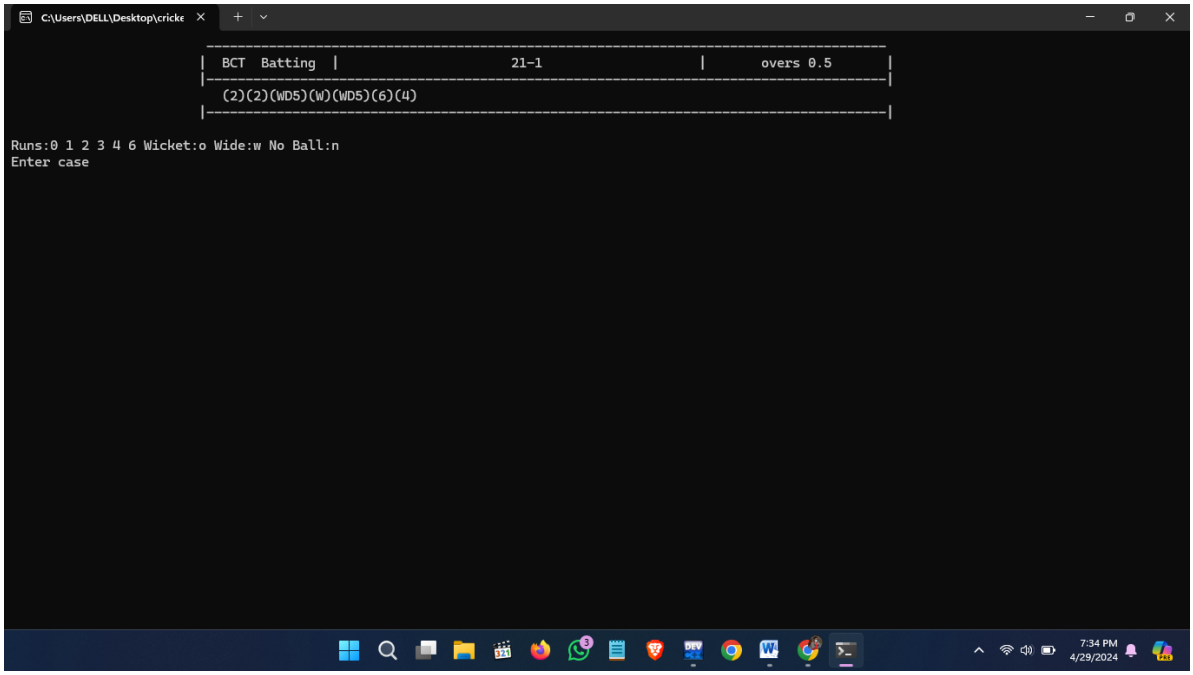
```
                        runst2=runst2+wr;
                        fprintf(fp2,"Wide %d\t",wr);
                        if(j==0)
                        j=0;
                        else
                        j--;
                        break;
                case 'o':
                        wicketst2++;
                        printf("Enter runs if runout");
                        scanf("%d",&runs);
                        runst2=runst2+runs;
                        fprintf(fp2,"Wicket %d\t",runs);
                        break;
                case 'n':
                        printf("Enter no ball runs");
                        scanf("%d",&wr);
                        runst2=runst2+wr;
                        fprintf(fp2,"No Ball %d\t",wr);
                        if(j==0)
                        j=0;
                        else
                        j--;
                        break;
                default:
                        printf("Choose a valid option");
                        goto hello1;
                }
                fprintf(fp2,"%d-%d\n",runst2,wicketst2);
        }
}
out2:
fclose(fp2);
system("cls");
if(runst1==runst2)
printf("Draw, move to the super overs");
if(t==2)
        if(runst1>runst2)
        printf("%s won by %d runs",team2,runst1-runst2);
        else
```

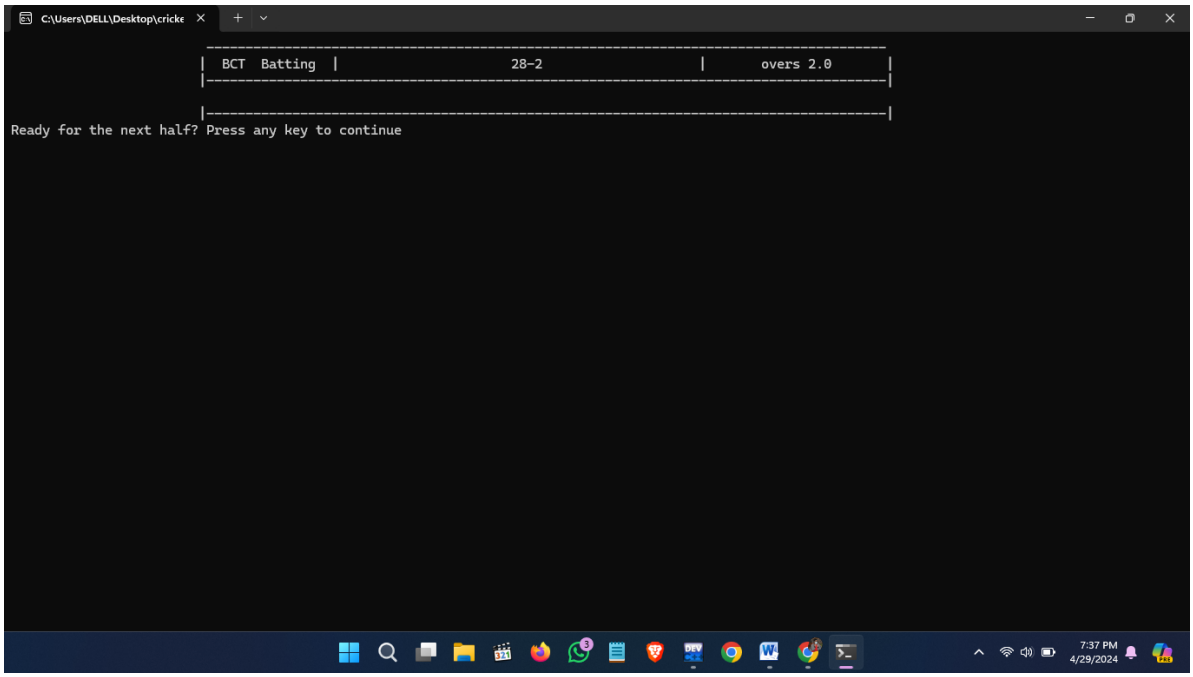
```
                printf("%s won by %d wickets",team1,10-wicketst2);
        else
                if(runst1>runst2)
                printf("%s won by %d runs",team1,runst1-runst2);
                else
                printf("%s won by %d wickets",team2,10-wicketst2);
        nice:
        printf("\n1. See stats\n2. Exit");
        scanf("%d",&choice);
        if(choice==1)
        {
                printf("Enter name of team");
                scanf("%s",teamname);
                teamname[strcspn(teamname,"\n")]=0;
                sprintf(filename,"%s.txt",teamname);
                fp3=fopen(filename,"r");
                while(fgets(content,sizeof(content),fp3)!=NULL)
                {
                        printf("%s\n",content);
                }

                goto nice;
        }
        else
        {
                exit(0);
        }
}
```

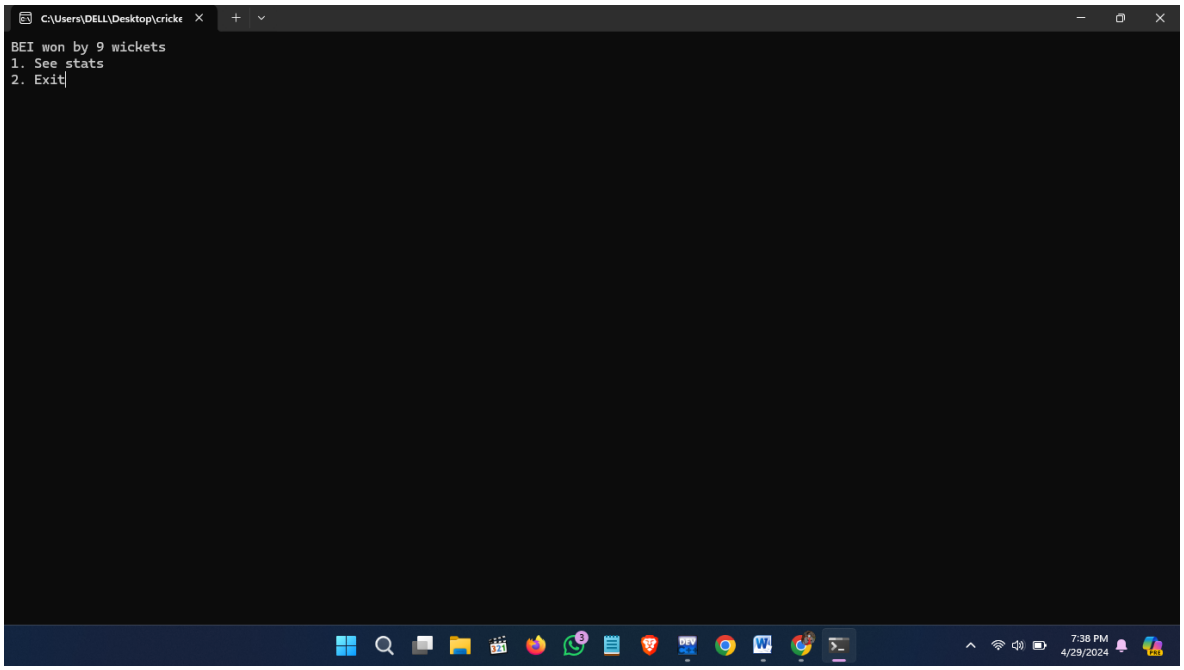
Output snaps

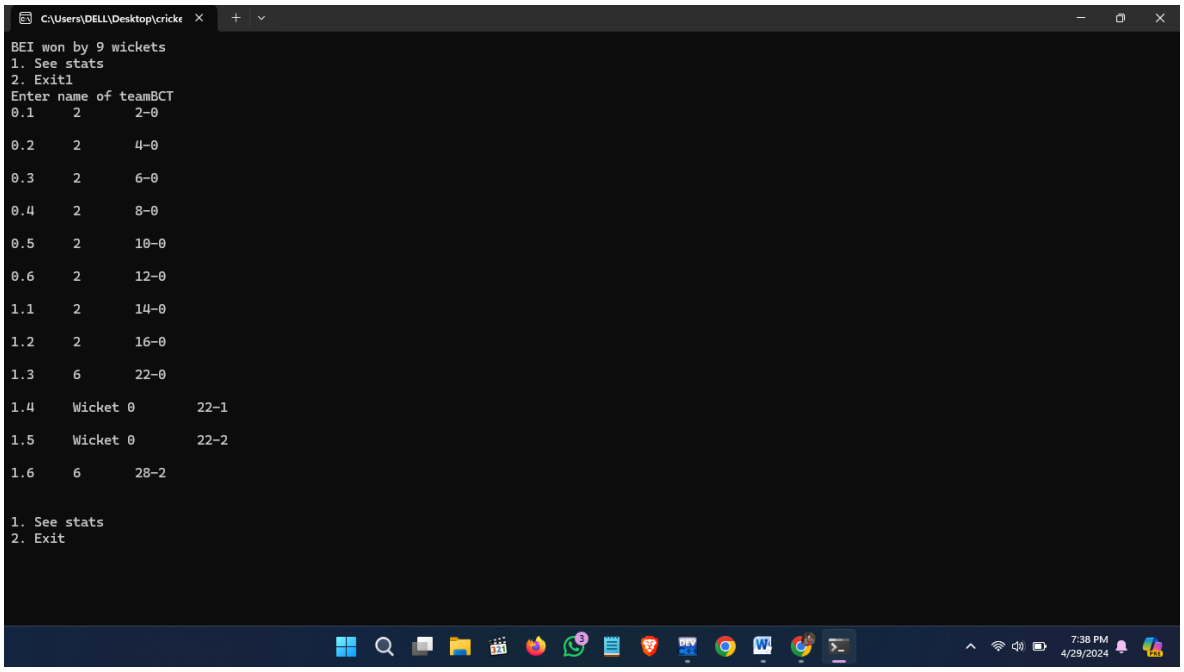





C:\Users\DELL\Desktop\cricke
| BCT Batting | 21-1 | overs 0.5 |
(2)(2)(WD5)(W)(WD5)(6)(4)
Runs:0 1 2 3 4 6 Wicket:o Wide:w No Ball:n
Enter case
7:34 PM
4/29/2024


C:\Users\DELL\Desktop\cricke
| BCT Batting | 28-2 | overs 2.0 |
Ready for the next half? Press any key to continue
7:37 PM
4/29/2024


C:\Users\DELL\Desktop\cricke
BEI won by 9 wickets
1. See stats
2. Exit
7:38 PM
4/29/2024


C:\Users\DELL\Desktop\cricke
BEI won by 9 wickets
1. See stats
2. Exit1
Enter name of teamBCT
0.1 2 2-0
0.2 2 4-0
0.3 2 6-0
0.4 2 8-0
0.5 2 10-0
0.6 2 12-0
1.1 2 14-0
1.2 2 16-0
1.3 6 22-0
1.4 Wicket 0 22-1
1.5 Wicket 0 22-2
1.6 6 28-2
1. See stats
2. Exit
7:38 PM
4/29/2024

Further development

- More features
  We can add more features like strike change, run rates, super overs and projected scores.

- Automatic update
  We can add automatic updates through feeds from cameras and gestures of umpire so that the user doesn't have to enter the scores every time. The box and font can be changed with more colors so that it will be pleasing for the viewers as well.

Conclusion

Hence, after the completion of this project, we now have an easier way to update scores during games with accurate and fast processing of numbers, overs and balls with minimal user input. This project used various functions in different files of C and with functions like sleep(), getch() and sprintf(), I was able to make the user experience more exciting.

Reference

I took help from sources like GitHub and ChatGPT to edit my code and search for new functions. I also took help from various sources and websites across Google to fix bugs in my program.