

Final Report

(Fantasy Pointing System)

Course Code: CS110

Course Title: Computer Programming

Semester: B. Tech 2nd Sem

Section: S1

Academic Year: 2019-20

Course Instructor: B. R. Chandavarkar

Team Members:

1. Gagandeep N A, ME132, 6364581962, gdpnahag@gmail.com
2. Sudarshan N, ME188, 8431821812, sudarshann.191me188@nitk.edu.in

1 Abstract

Brief Description:

Fantasy Pointing System is a system which does the process of assigning points for a sports person's overall performance in a specific match.

This fantasy pointing system takes input from the user for getting to know the cricketer's performance in a specific T20 cricket match.

Then it calculates the fantasy points for every loss and gains of the cricketer giving justified value to the player's performance in the match by using the input given by the user.

It points out all the misinformation provided by the user according to the standard ICC T20 rules.

Then it sums up all the individual points awarded for the player's performance and prints the total fantasy points.

Using the total fantasy points scored by the player in a match, one can organize Cricket Fantasy Leagues; rank batsmen, bowlers and all rounders all in one rank list and also use this data to identify the most valuable player in a given tournament.

Key Features:

1. Calculates Fantasy Points for a player in a specific T20 cricket match.
2. Strictly follows ICC T20I rules.
3. Calculates Fantasy Points for a player in a specific T20 cricket tournament.

2 Introduction

This mini-project on Fantasy Pointing System deals with calculation of Fantasy Points for a cricketer in a given T20 cricket tournament.

We use "C"-computer programming language to perform this mini-project.

Fantasy Pointing System is a system which does the process of assigning points for a sports person's overall performance in a specific match.

This fantasy pointing system takes input from the user for getting to know the cricketer's performance in a specific T20 cricket match.

Then it calculates the fantasy points for every loss and gains of the cricketer giving justified value to the player's performance in the match by using the input given by the user.

It points out all the misinformation provided by the user according to the standard ICC T20 rules.

Then it sums up all the individual points awarded for the player's performance and prints the total fantasy points in a given match of the tournament.

Then it sums up all the fantasy points awarded in every match of the T20 tournament to give the total fantasy points earned in the tournament

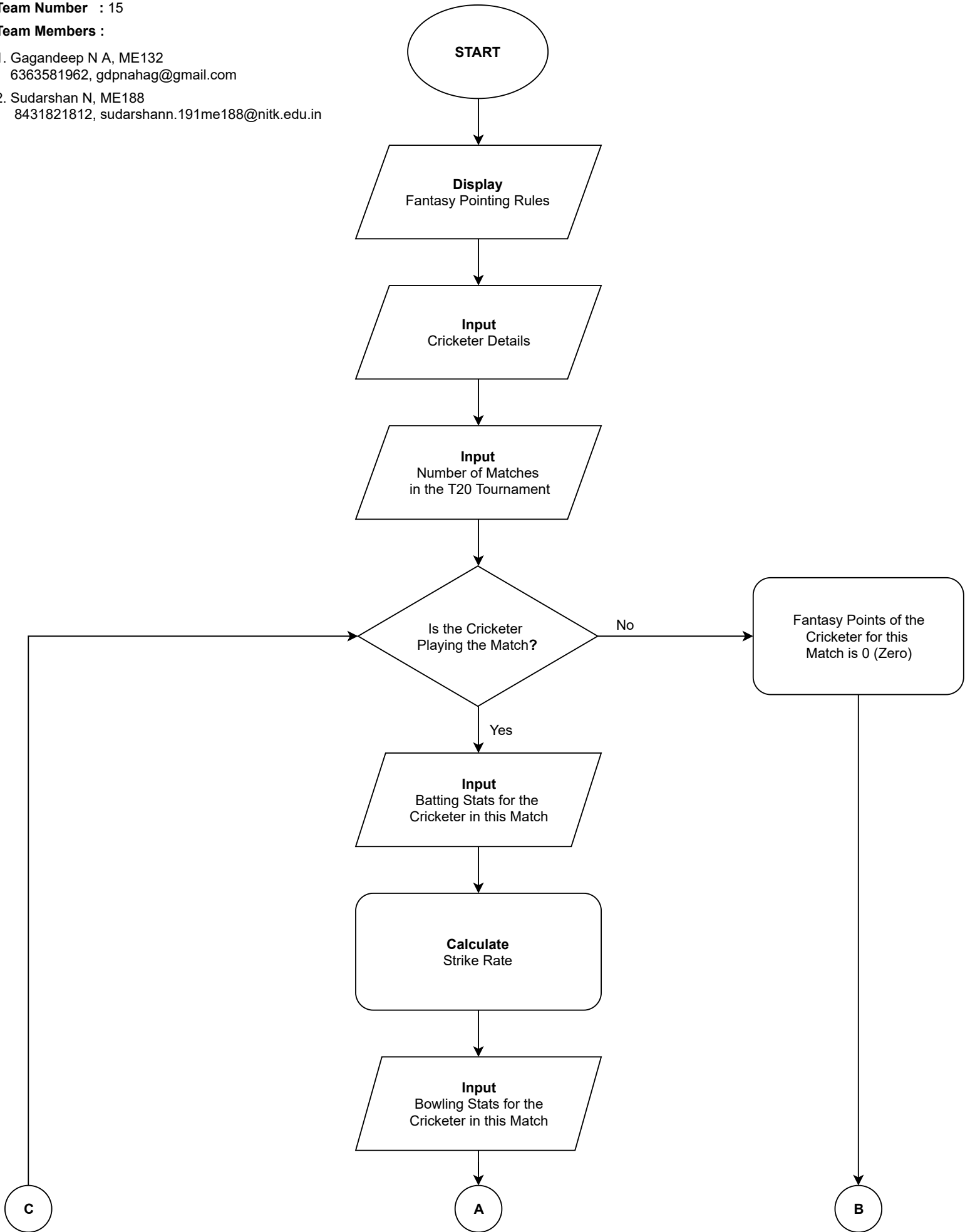
Then it stores all the results in a text file.

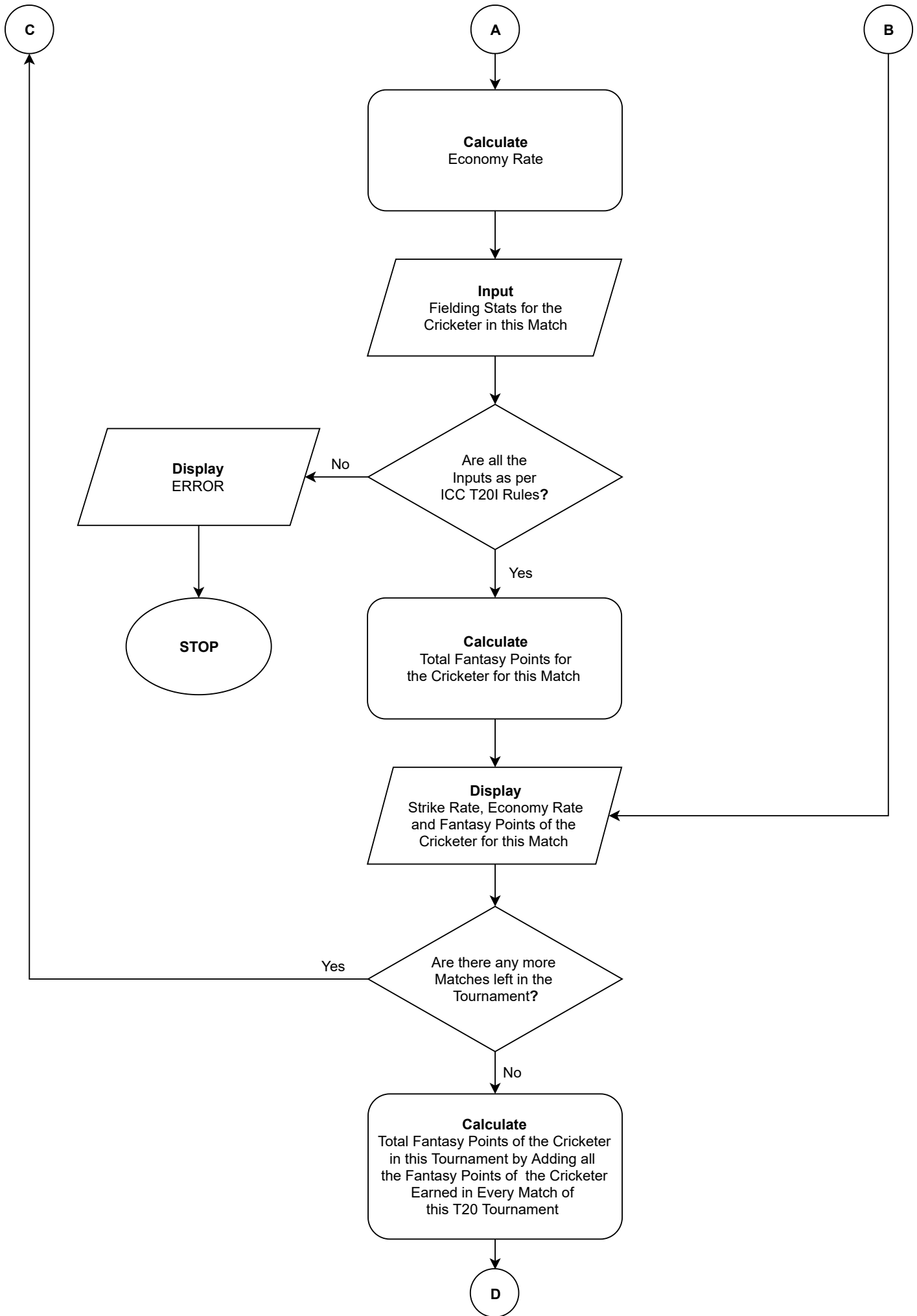
Using the total fantasy points scored by the player in the tournament, one can organize Cricket Fantasy Leagues; rank batsmen, bowlers and all rounders all in one rank list and also use this data to identify the most valuable player in a given tournament.

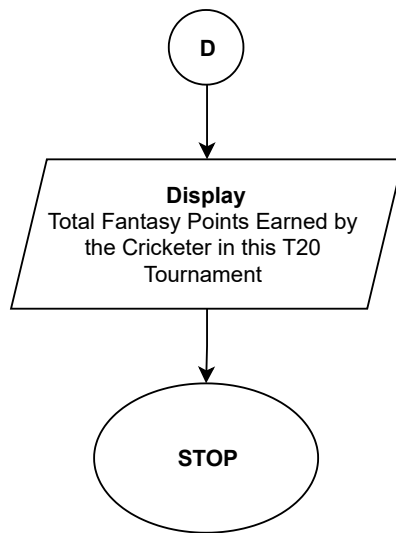
3 Flowchart or Algorithm

[FLOWCHART CONTINUED IN NEXT PAGE]

TITLE : Fantasy Pointing System
Team Number : 15
Team Members :
1. Gagandeep N A, ME132
6363581962, gdpnahag@gmail.com
2. Sudarshan N, ME188
8431821812, sudarshann.191me188@nitk.edu.in







4 Source Code

This section of the report presents the source for calculating total fantasy points earned by a cricketer in a T20 cricket tournament.

1. Fantasy Pointing System.c

```
//C Program for calculating Fantasy Points for a Cricketer for a T20
Tournament//

#include<stdio.h>

int main()
{
    //Display Fantasy Pointing Rules//
    printf("T20 Cricket Fantasy Points Calculating System for a
        Player");
    printf("\n-----");
    printf("\nFantasy Pointing System for an individual player");
    printf("\n\nIf the Cricketer is playing the match:\n\tPlaying
        Bonus = +4 points");
    printf("\n\n Batting:\n\tRuns = +1 points\n\tFour Bonus = +1
        points\n\tSix Bonus = +2 points\n\tHalf Century Bonus = +8
        points\n\tCentury Bonus = +16 points\n\tOut for a duck(Except
        Bowlers) = -4 points");
    printf("\n\n Bowling:\n\tWickets = +25 ponts\n\tBowled/LBW Bonus
        = +12 points\n\tMaiden Over Bonus = +8 points\n\t3 Wicket
        Haul Bonus = +6 ponts\n\t4 Wicket Haul Bonus = +8 points\n\t5
        Wicket Haul Bonus = +12 ponits\n\t5+ Wicket Haul Bonus = +16
        points");
    printf("\n\n Fielding:\n\tCatch = +12 ponits\n\tStumping = +12
        ponts\n\tDirect Hit Runout = +15 points\n\tAssist for Runout =
        +10 points\n\tCompleting a Runout = +5 points");
    printf("\n\n Strike Rate (Except Bowlers and Minimum of 10 balls
        to be played):\n\t<=50.00 = -6 points\n\t50.01 - 60.00 = -4
        points\n\t60.01 - 70.00 = -2 points");
}
```



```

printf("\n\n Economy Rate (Minimum of 2 overs to be bowled):\n\t
    <=3.00 = +8 points\n\t3.01 - 4.00 = +6 points\n\t4.01 - 5.00
    = +4 points\n\t5.01 - 6.00 = +2 points\n\t9.00 - 9.99 = -2
    points\n\t10.00 - 10.99 = -4 points\n\t11.00 - 11.99 = -6
    points\n\t>=12.00 = -8 points");
printf("\n-----");

char name[50],Tournament[50];
printf("\n\nEnter the T20 Tournament name:");
scanf("%s",Tournament);
printf("\n\nEnter the Cricket's name: ");
scanf("%s",&name);

int i,n,role,Tournament_points=0;
printf("\n\nEnter '1' if %s is a 'batsman', Enter '2' if %s is an
    'all-ronder' or Enter '3' if %s is a 'bowler':",name,name,
    name);
scanf("%d",&role);
printf("\n\nEnter the number of matches in the tournament: ");
scanf("%d",&n);

//File Appending//
FILE *fptr;
fptr=(fopen("fantasy_points.txt","a"));
fprintf(fptr,"\n\n%s\n\n\tCrickter's Name: %s",Tournament,name);

switch (role)
{
    case 1: fprintf(fptr,"(Batsman)");
    break;

```

```

case 2: fprintf(fptr,"(All-rounder)");
break;
case 3: fprintf(fptr,"(Bowler)");
break;
}

fprintf(fptr,"\n\tFantasy Points:");

//Running the for loop for n = no. of matches//
for(i=1;i<=n;++i)
{
int playing_or_not ,Final_total;
Final_total=0;
printf("\n\nEnter '1' if %s is playing or Enter '0' if %s is
not playing in the match number %d: ", name, name,i);
scanf("%d",&playing_or_not);

if(playing_or_not == 1)
{
if(role==1 || role == 2 || role == 3)
{
int batted;
printf("\n\nEnter '1' if %s got a chance to bat or
enter '0' if %s did not get any chance to bat in
match number %d : " ,name,name,i);
scanf("%d",&batted);

if(batted==1 || batted==0)
{
int fours , sixes , total , Grand_total ,
Batting_total ,wickets , bowled_and_LBW ,
maidens , Bowling_total , catches , stumpings ,

```

```

        direct_hit_runouts , assists , completions ;
float runs , balls , overs , runs_given ,
        strike_rate , economy ;

//Input Batting Stats//
printf("\n\nEnter the number of runs scored by %s
        s in match number %d: ",name,i);
scanf("%f",&runs);

printf("\n Enter the number of balls faced by %s
        in match number %d: ",name,i);
scanf("%f",&balls);

printf("\n Enter the number of fours hit by %s
        in match number %d: ",name,i);
scanf("%d",&fours);

printf("\n Enter the number of sixes hit by %s
        in match number %d: ",name,i);
scanf("%d",&sixes);

//Input Bowling Stats//
printf("\n Enter the number of overs bowled by %s
        s in match number %d: ",name,i);
scanf("%f",&overs);

printf("\n Enter the number of runs given by %s
        in match number %d: ",name,i);
scanf("%f",&runs_given);

printf("\n Enter the number of wickets taken by
        %s in match number %d: ",name,i);
scanf("%d",&wickets);

```

```
printf("\n Enter the number of wickets taken by
      %s by bowleding and LBW combined the batsman
      in match number %d: ",name,i);
scanf("%d",&bowled_and_LBW);
```

```
printf("\n Enter the number of maiden overs
      bowled by %s in match number %d: ",name,i);
scanf("%d",&maidens);
```

```
printf("\n Enter the number of catches taken by
      %s in match number %d: ",name,i);
scanf("%d",&catches);
```

```
printf("\n Enter the number of stumpings done by
      %s in match number %d: ",name,i);
scanf("%d",&stumpings);
```

```
printf("\n Enter the number of direct hit run-
      outs effected by %s in match number %d: ",
      name,i);
scanf("%d",&direct_hit_runouts);
```

```
printf("\n Enter the number of assists by %s for
      runouts in match number %d: ",name,i);
scanf("%d",&assists);
```

```
printf("\n Enter the number of runouts completed
      by %s after assist from other players in
      match number %d: ",name,i);
scanf("%d",&completions);
```

```
//Checking if the Inputs are as per ICC T20I
```

```

Rules//
if (runs>=0 && balls>=0 && fours>=0 && sixes>=0
    && overs>=0 && runs_given>=0 && wickets>=0 &&
    bowled_and_LBW>=0 && maidens>=0
    && catches>=0 && stumpings>=0 &&
        direct_hit_runouts>=0 && assists>=0 &&
        completions>=0 &&(runs>=((4*fours)+(6*
        sixes))) && (balls>=(fours)+(sixes)) &&
        overs<=4 && wickets<=10 && bowled_and_LBW
        <=wickets && maidens<=overs && ((wickets)
        +(catches)+(stumpings)+(
        direct_hit_runouts)+(assists)+(
        completions))<=10 && (((stumpings)+(
        direct_hit_runouts)+(assists)+(
        completions))<=(10-wickets)))

{
    //Strike Rate Calculation//
    if (balls==0)
    {
        strike_rate = 0;
    }
    else
    {
        strike_rate = (runs/balls)*100;
    }

    //Economy Rate Calculation//
    if (overs==0)
    {
        economy = 0;
    }
    else

```

```

{
    economy = runs_given/overs;
}

//Fantasy Points Calculation for this match
//
total = 4+runs+fours+(2*sixes)+(25*wickets)
        +(12*bowled_and_LBW)+(8*maidens)+(12*
        catches)+(12*stumpings)+(15*
        direct_hit_runouts)+(10*assists)+(5*
        completions);

if (role==1||role==2)
{
    switch (batted)
    {
        case 0: Grand_total = total - runs -
                fours - (2*sixes);
                break;
        case 1: if (balls>=10 && strike_rate
                <=50)
                {
                    Grand_total = total-6;
                }
                else if (balls>=10 &&
                strike_rate <=60)
                {
                    Grand_total = total-4;
                }
                else if (balls>=10 &&
                strike_rate <=70)

```

```

        {
            Grand_total = total - 2;
        }
        else
        {
            Grand_total = total;
        }

        break;
        default: printf("Error");
        break;
    }
}

else if (role == 3)
{
    Grand_total = total;
}

if (batted == 1 && (role == 1 || role == 2) && runs
    == 0)
{
    Grand_total = total - 4;
}
else
{
    Grand_total = total;
}

if (runs >= 50 && runs < 100)
{
    Batting_total = Grand_total + 8;
}
else if (runs >= 100)

```

```

{
    Batting_total = Grand_total+16;
}
else
{
    Batting_total = Grand_total;
}
if (overs>=2 && economy>0 && economy<=3)
{
    Bowling_total = Batting_total+8;
}
else if (overs>=2 && economy<=4)
{
    Bowling_total = Batting_total+6;
}
else if (overs>=2 && economy<=5)
{
    Bowling_total = Batting_total+4;
}
else if (overs>=2 && economy<=6)
{
    Bowling_total = Batting_total+2;
}
else if (overs>=2 && economy>=9 && economy
    <10)
{
    Bowling_total = Batting_total-2;
}
else if (overs>=2 && economy>=10 && economy
    <11)
{
    Bowling_total = Batting_total-4;
}

```



```

else if(overs>=2 && economy>=11 && economy
<12)
{
    Bowling_total = Batting_total-6;
}
else if(overs>=2 && economy>=12)
{
    Bowling_total = Batting_total-8;
}
else
{
    Bowling_total = Batting_total;
}
if(wickets<3)
{
    Final_total = Bowling_total;
}
else if(wickets==3)
{
    Final_total = Bowling_total+6;
}
else if(wickets==4)
{
    Final_total = Bowling_total+8;
}
else if(wickets==5)
{
    Final_total = Bowling_total+12;
}
else if(wickets>5)
{
    Final_total = Bowling_total+16;
}

```

```

        //Display Strike Rate, Economy Rate and
        Total Fantasy Points in this match//
        printf("\n Strike Rate of %s is %f ",name,
            strike_rate);
        printf("\n Economy rate of %s is %f",name,
            economy);
        printf("\n\n The total Fantasy Points of %s
            in match number %d is:  %d", name,i,
            Final_total);
    }
    else
    {
        printf(" Error");
    }

}

}
else
{
    printf(" Error");
}

}

else if(playing_or_not == 0)
{
    printf("\n The total Fantasy Points of %s in match
        number %d is = 0", name,i);
}
else

```

```

    {
        printf("Error");
    }

    fprintf(fptr, "\n\t\tMatch %d: %d\n", i, Final_total);
    Tournament_points += Final_total;    //Total Fantasy Points
        Calculation for this Tournament//
}

//Display Total Fantasy Points in this Tournament//
printf("\n\nTotal Fantasy Points of %s in the tournament is = %d\n", name, Tournament_points);
fprintf(fptr, "\n\tTournament Points: %d\n", Tournament_points);
fclose(fptr);
return 0;
}

```

5 Results

```
C:\Users\gdpna\OneDrive\Documents\fantasy points loop trail.exe
T20 Cricket Fantasy Points Calculating System for a Player

Fantasy Pointing System for an individual player

If the Cricketer is playing the match:
    Playing Bonus = +4 points

Batting:
    Runs = +1 points
    Four Bonus = +1 points
    Six Bonus = +2 points
    Half Century Bonus = +8 points
    Century Bonus = +16 points
    Out for a duck(Except Bowlers) = -4 points

Bowling:
    Wickets = +25 points
    Bowled Bonus = +12 points
    Maiden Over Bonus = +8 points
    3 Wicket Haul Bonus = +6 points
    4 Wicket Haul Bonus = +8 points
    5 Wicket Haul Bonus = +12 points
    5+ Wicket Haul Bonus = +16 points

Fielding:
    Catch = +12 points
    Stumping = +12 points
    Direct Hit Runout = +15 points
    Assist for Runout = +10 points
    Completing a Runout = +5 points

Strike Rate (Except Bowlers and Minimum of 10 balls to be played):
    <=50.00 = -6 points
    50.01 - 60.00 = -4 points
    60.01 - 70.00 = -2 points

Economy Rate (Minimum of 2 overs to be bowled):
    <=3.00 = +8 points
    3.01 - 4.00 = +6 points
    4.01 - 5.00 = +4 points
    5.01 - 6.00 = +2 points
    6.01 - 7.00 = 0 points
    7.01 - 8.00 = -2 points
    8.01 - 9.00 = -4 points
    9.01 - 10.00 = -6 points
    >=10.01 = -8 points

Enter the T20 Tournament name:SIPL

Enter the Cricketer's name: Gagandeep
```

Figure 1: Fantasy Pointing Rules

```
C:\Users\gdonal\OneDrive\Documents\fantasy points loop trail.exe
11.00 - 11.99 = -6 points
>=12.00 = -8 points

Enter the T20 Tournament name:SIPL

Enter the Cricket's name: Gagandeep

Enter '1' if Gagandeep is a 'batsman', Enter '2' if Gagandeep is an 'all-ronder' or Enter '3' if Gagandeep is a 'bowler':2

Enter the number of matches in the tournament: 3

Enter '1' if Gagandeep is playing or Enter '0' if Gagandeep is not playing in the match number 1: 1

Enter '1' if Gagandeep got a chance to bat or enter '0' if Gagandeep did not get any chance to bat in match number 1: 1

Enter the number of runs scored by Gagandeep in match number 1: 56
Enter the number of balls faced by Gagandeep in match number 1: 23
Enter the number of fours hit by Gagandeep in match number 1: 3
Enter the number of sixes hit by Gagandeep in match number 1: 5
Enter the number of overs bowled by Gagandeep in match number 1: 3
Enter the number of runs given by Gagandeep in match number 1: 28
Enter the number of wickets taken by Gagandeep in match number 1: 1
Enter the number of wickets taken by Gagandeep by bowleding the batsman in match number 1: 1
Enter the number of maiden overs bowled by Gagandeep in match number 1: 0
Enter the number of catches taken by Gagandeep in match number 1: 1
Enter the number of stumpings done by Gagandeep in match number 1: 0
Enter the number of direct hit run-outs effected by Gagandeep in match number 1: 0
Enter the number of assists by Gagandeep for runouts in match number 1: 1
Enter the number of runouts completed by Gagandeep after assist from other players in match number 1: 1

Strike Rate of Gagandeep is 243.478256
Economy rate of Gagandeep is 9.333333

The total Fantasy Points of Gagandeep in match number 1 is: 143
```

Figure 2: Fantasy Pointing for a Batsman or All-rounder Match-1

```
C:\Users\gdpna\OneDrive\Documents\fantasy points loop trail.exe
Enter '1' if Gagandeep is playing or Enter '0' if Gagandeep is not playing in the match number 2: 0
The total Fantasy Points of Gagandeep in match number 2 is = 0
Enter '1' if Gagandeep is playing or Enter '0' if Gagandeep is not playing in the match number 3: 1
Enter '1' if Gagandeep got a chance to bat or enter '0' if Gagandeep did not get any chance to bat in match number 3: 1
Enter the number of runs scored by Gagandeep in match number 3: 36
Enter the number of balls faced by Gagandeep in match number 3: 12
Enter the number of fours hit by Gagandeep in match number 3: 3
Enter the number of sixes hit by Gagandeep in match number 3: 3
Enter the number of overs bowled by Gagandeep in match number 3: 3
Enter the number of runs given by Gagandeep in match number 3: 32
Enter the number of wickets taken by Gagandeep in match number 3: 3
Enter the number of wickets taken by Gagandeep by bowleding the batsman in match number 3: 1
Enter the number of maiden overs bowled by Gagandeep in match number 3: 0
Enter the number of catches taken by Gagandeep in match number 3: 1
Enter the number of stumpings done by Gagandeep in match number 3: 0
Enter the number of direct hit run-outs effected by Gagandeep in match number 3: 1
Enter the number of assists by Gagandeep for runouts in match number 3: 0
Enter the number of runouts completed by Gagandeep after assist from other players in match number 3: 0
Strike Rate of Gagandeep is 300.000000
Economy rate of Gagandeep is 10.666667
The total Fantasy Points of Gagandeep in match number 3 is: 165
Total Fantasy Points of Gagandeep in the tournament is = 308
-----
Process exited after 216.7 seconds with return value 0
Press any key to continue . . .
```

Figure 3: Fantasy Pointing for a Batsman or All-rounder Match-2 and Match-3 and Total Tournament Points

```
Select C:\Users\gdpna\OneDrive\Documents\fantasy points loop trail.exe

Enter the T20 Tournament name:S1PL

Enter the Cricket's name: Sudarshan

Enter '1' if Sudarshan is a 'batsman', Enter '2' if Sudarshan is an 'all-ronder' or Enter '3' if Sudarshan is a 'bowler':3

Enter the number of matches in the tournament: 3

Enter '1' if Sudarshan is playing or Enter '0' if Sudarshan is not playing in the match number 1: 1

Enter '1' if Sudarshan got a chance to bat or enter '0' if Sudarshan did not get any chance to bat in match number 1: 1

Enter the number of runs scored by Sudarshan in match number 1: 12

Enter the number of balls faced by Sudarshan in match number 1: 10

Enter the number of fours hit by Sudarshan in match number 1: 1

Enter the number of sixes hit by Sudarshan in match number 1: 0

Enter the number of overs bowled by Sudarshan in match number 1: 4

Enter the number of runs given by Sudarshan in match number 1: 37

Enter the number of wickets taken by Sudarshan in match number 1: 3

Enter the number of wickets taken by Sudarshan by bowleding the batsman in match number 1: 1

Enter the number of maiden overs bowled by Sudarshan in match number 1: 0

Enter the number of catches taken by Sudarshan in match number 1: 0

Enter the number of stumpings done by Sudarshan in match number 1: 0

Enter the number of direct hit run-outs effected by Sudarshan in match number 1: 0

Enter the number of assists by Sudarshan for runouts in match number 1: 0

Enter the number of runouts completed by Sudarshan after assist from other players in match number 1: 0

Strike Rate of Sudarshan is 120.000000
Economy rate of Sudarshan is 9.250000

The total Fantasy Points of Sudarshan in match number 1 is: 108

Enter '1' if Sudarshan is playing or Enter '0' if Sudarshan is not playing in the match number 2: 1

Enter '1' if Sudarshan got a chance to bat or enter '0' if Sudarshan did not get any chance to bat in match number 2: 0
```

Figure 4: Fantasy Pointing for a Bowler Match-1

```
Select C:\Users\gdpna\OneDrive\Documents\fantasy points loop trail.exe

Enter '1' if Sudarshan is playing or Enter '0' if Sudarshan is not playing in the match number 2: 1
Enter '1' if Sudarshan got a chance to bat or enter '0' if Sudarshan did not get any chance to bat in match number 2: 0

Enter the number of runs scored by Sudarshan in match number 2: 0
Enter the number of balls faced by Sudarshan in match number 2: 0
Enter the number of fours hit by Sudarshan in match number 2: 0
Enter the number of sixes hit by Sudarshan in match number 2: 0
Enter the number of overs bowled by Sudarshan in match number 2: 4
Enter the number of runs given by Sudarshan in match number 2: 24
Enter the number of wickets taken by Sudarshan in match number 2: 5
Enter the number of wickets taken by Sudarshan by bowleding the batsman in match number 2: 2
Enter the number of maiden overs bowled by Sudarshan in match number 2: 1
Enter the number of catches taken by Sudarshan in match number 2: 1
Enter the number of stumpings done by Sudarshan in match number 2: 0
Enter the number of direct hit run-outs effected by Sudarshan in match number 2: 1
Enter the number of assists by Sudarshan for runouts in match number 2: 0
Enter the number of runouts completed by Sudarshan after assist from other players in match number 2: 0

Strike Rate of Sudarshan is 0.000000
Economy rate of Sudarshan is 6.000000

The total Fantasy Points of Sudarshan in match number 2 is: 202

Enter '1' if Sudarshan is playing or Enter '0' if Sudarshan is not playing in the match number 3: 1
Enter '1' if Sudarshan got a chance to bat or enter '0' if Sudarshan did not get any chance to bat in match number 3: 1

Enter the number of runs scored by Sudarshan in match number 3: 0
Enter the number of balls faced by Sudarshan in match number 3: 1
Enter the number of fours hit by Sudarshan in match number 3: 0
Enter the number of sixes hit by Sudarshan in match number 3: 0
```

Figure 5: Fantasy Pointing for a Bowler Match-2


```
Select C:\Users\gdpna\OneDrive\Documents\fantasy points loop trail.exe

Enter '1' if Sudarshan is playing or Enter '0' if Sudarshan is not playing in the match number 3: 1
Enter '1' if Sudarshan got a chance to bat or enter '0' if Sudarshan did not get any chance to bat in match number 3: 1

Enter the number of runs scored by Sudarshan in match number 3: 0
Enter the number of balls faced by Sudarshan in match number 3: 1
Enter the number of fours hit by Sudarshan in match number 3: 0
Enter the number of sixes hit by Sudarshan in match number 3: 0
Enter the number of overs bowled by Sudarshan in match number 3: 4
Enter the number of runs given by Sudarshan in match number 3: 30
Enter the number of wickets taken by Sudarshan in match number 3: 1
Enter the number of wickets taken by Sudarshan by bowleding the batsman in match number 3: 0
Enter the number of maiden overs bowled by Sudarshan in match number 3: 0
Enter the number of catches taken by Sudarshan in match number 3: 1
Enter the number of stumpings done by Sudarshan in match number 3: 0
Enter the number of direct hit run-outs effected by Sudarshan in match number 3: 1
Enter the number of assists by Sudarshan for runouts in match number 3: 1
Enter the number of runouts completed by Sudarshan after assist from other players in match number 3: 1

Strike Rate of Sudarshan is 0.000000
Economy rate of Sudarshan is 7.500000

The total Fantasy Points of Sudarshan in match number 3 is: 71

Total Fantasy Points of Sudarshan in the tournament is = 381
.....
Process exited after 102.7 seconds with return value 0
Press any key to continue . . .
```

Figure 6: Fantasy Pointing for a Bowler Match-3 and Total Tournament Points

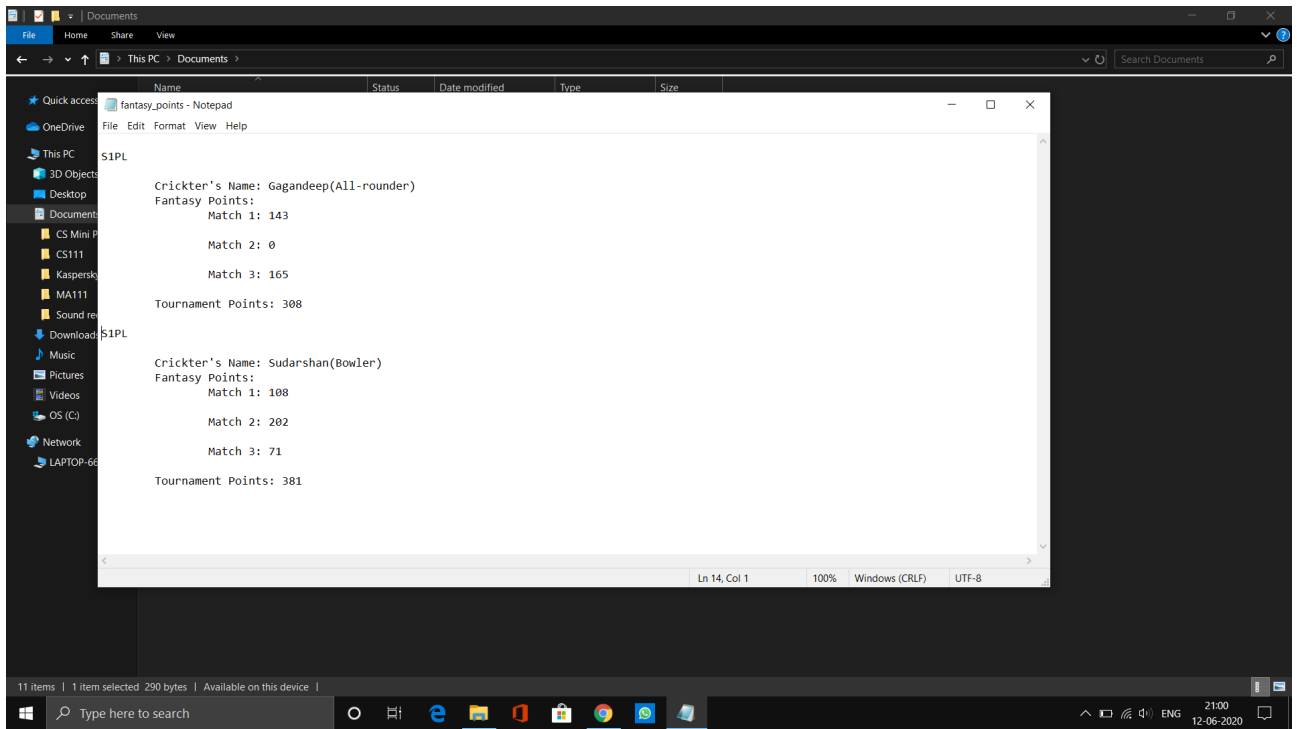


Figure 7: fantasy-points.txt file

6 References:

1. <http://dream11.com>
2. <https://mpl.live>
3. <https://myteam11.com>

****** END ******