Welcome

Cricket Scorecard Management Program

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Overview

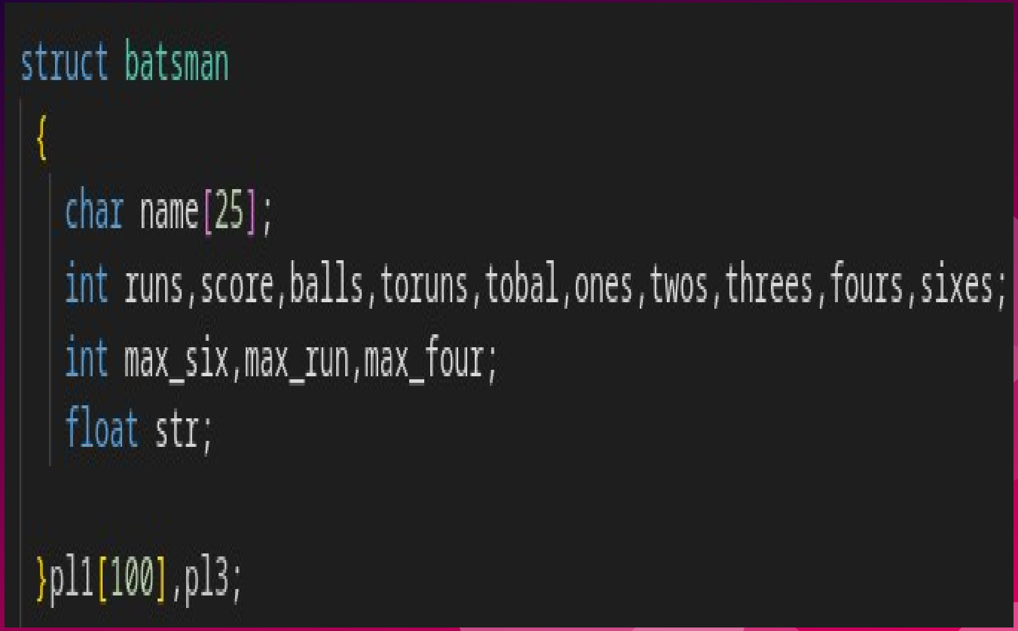
This program collects, processes, and displays cricket match data, focusing on::

- **Batsman Performance: Runs, balls faced, and strike rate.**
- **Bowler Performance: Overs, runs conceded, wickets taken, and economy rate.**
- **Allows users to view individual player statistics and match summaries.**

Structure Definition: Batsman

Explanation:

- The batsman structure holds player data, including individual runs, balls, boundaries (fours and sixes), and strike rate calculation fields.
- Arrays pl1[] store multiple batsman details, while pl3 holds aggregated or max values.



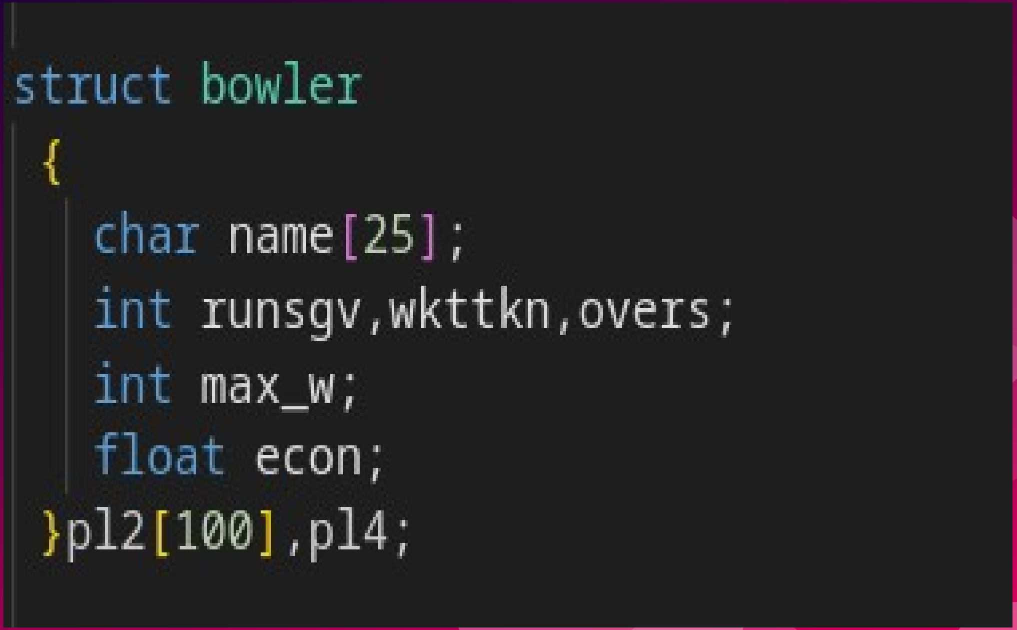
```
struct batsman
 {
   char name[25];
   int runs,score,balls,toruns,tobal,ones,twos,threes,fours,sixes;
   int max_six,max_run,max_four;
   float str;

 }pl1[100],pl3;
```

Structure Definition: Bowler

Explanation:

- The bowler structure holds data on overs bowled, runs conceded, wickets taken, and economy rate.

- Arrays pl2[] store individual bowlers' data, while pl4 aggregates and tracks maximum performance metrics.

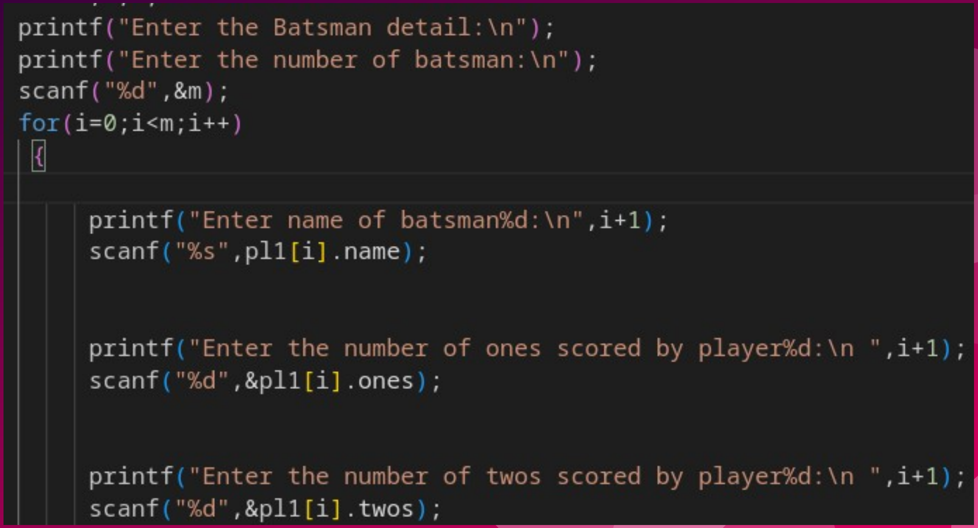


```c
struct bowler
 {
   char name[25];
   int runsgv,wkttkn,overs;
   int max_w;
   float econ;
 }pl2[100],pl4;
```

Input Section: Batsman Data Collection

Explanation:

- The user enters the number of batsmen (m), followed by individual details like name, boundaries, and balls played.
- Data is stored in the pl1[] array.
- This portion of the code also take additional inputs for threes,fours,sixes and balls played.

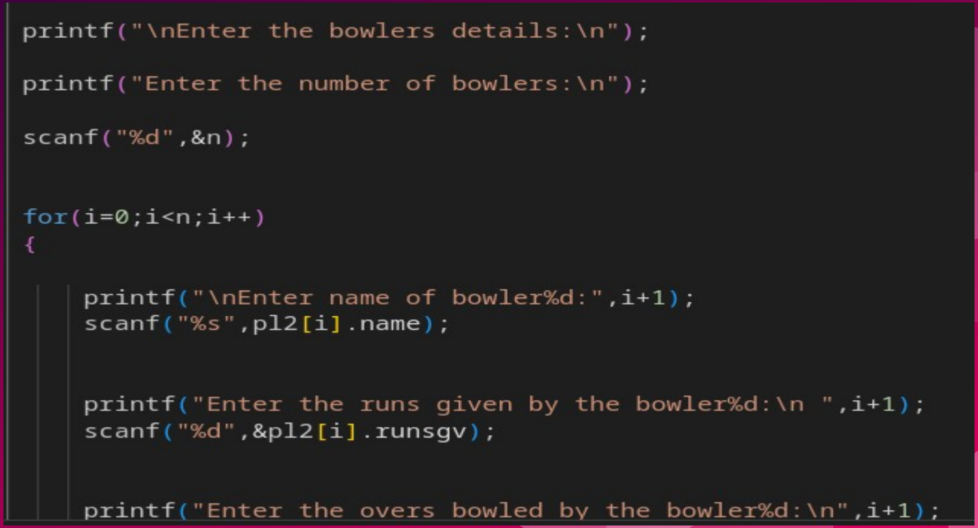


```
printf("Enter the Batsman detail:\n");
printf("Enter the number of batsman:\n");
scanf("%d",&m);
for(i=0;i<m;i++)
 {

    printf("Enter name of batsman%d:\n",i+1);
    scanf("%s",pl1[i].name);


    printf("Enter the number of ones scored by player%d:\n ",i+1);
    scanf("%d",&pl1[i].ones);


    printf("Enter the number of twos scored by player%d:\n ",i+1);
    scanf("%d",&pl1[i].twos);
```

Input Section: Bowler Data Collection

Explanation:

- User inputs bowler details like runs conceded, overs bowled, and wickets taken.
- Data is stored in the pl2[] array for each bowler.
- It also takes additional inputs for wickets taken.



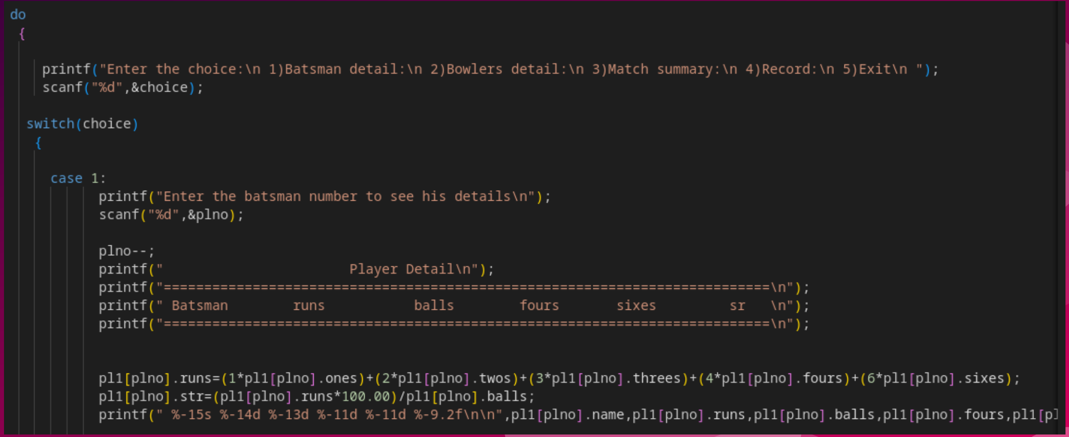
```
printf("\nEnter the bowlers details:\n");

printf("Enter the number of bowlers:\n");

scanf("%d",&n);


for(i=0;i<n;i++)
{

    printf("\nEnter name of bowler%d:",i+1);
    scanf("%s",pl2[i].name);


    printf("Enter the runs given by the bowler%d:\n ",i+1);
    scanf("%d",&pl2[i].runsgv);


    printf("Enter the overs bowled by the bowler%d:\n",i+1);
```

Main Menu and Functionality:

Explanation:

Users can choose different functionalities:

- Option 1: Display a batsman’s individual performance.
- Option 2: Display a bowler’s statistics.
- Option 3: Show a summary of the match.
- Option 4: Find and display maximum records for runs, wickets, etc.

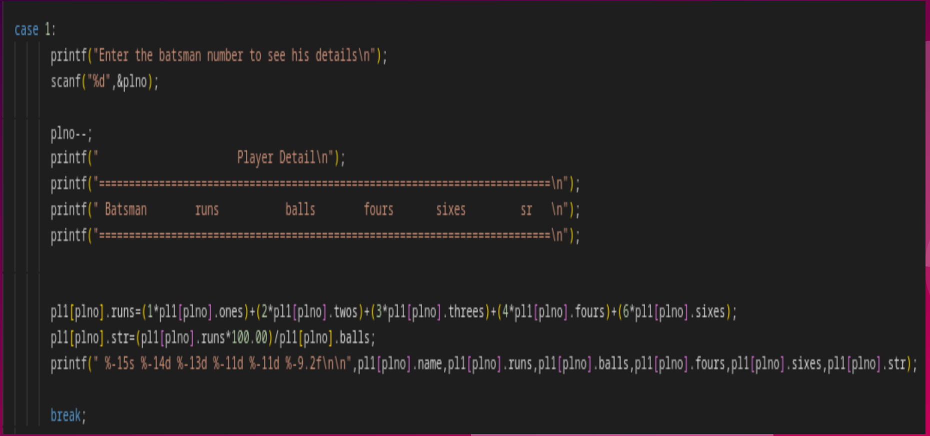


```c
do
 {

   printf("Enter the choice:\n 1)Batsman detail:\n 2)Bowlers detail:\n 3)Match summary:\n 4)Record:\n 5)Exit\n ");
   scanf("%d",&choice);

  switch(choice)
   {

    case 1:
          printf("Enter the batsman number to see his details\n");
          scanf("%d",&plno);

          plno--;
          printf("                       Player Detail\n");
          printf("===========================================================================\n");
          printf(" Batsman        runs           balls        fours       sixes         sr   \n");
          printf("===========================================================================\n");


          pl1[plno].runs=(1*pl1[plno].ones)+(2*pl1[plno].twos)+(3*pl1[plno].threes)+(4*pl1[plno].fours)+(6*pl1[plno].sixes);
          pl1[plno].str=(pl1[plno].runs*100.00)/pl1[plno].balls;
          printf(" %-15s %-14d %-13d %-11d %-11d %-9.2f\n\n",pl1[plno].name,pl1[plno].runs,pl1[plno].balls,pl1[plno].fours,pl1[p
```

Case 1: Batsman Details Display

Explanation:

- The program calculates total runs and strike rate for a selected batsman and displays them.

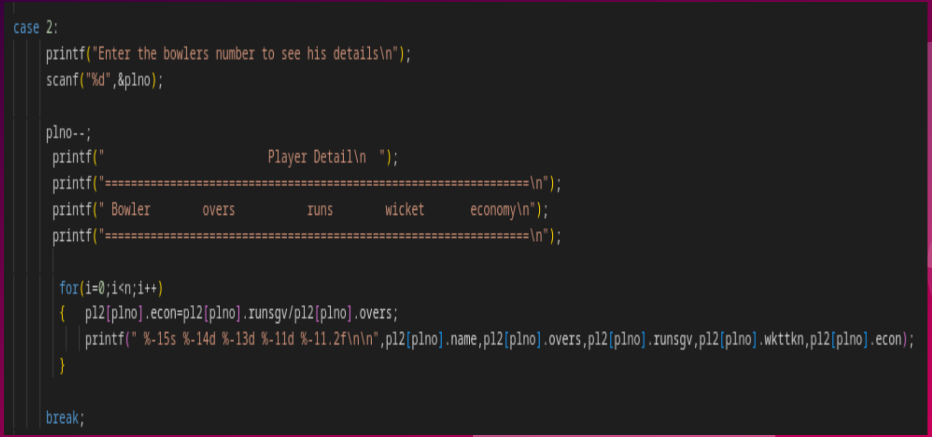


```
case 1:
        printf("Enter the batsman number to see his details\n");
        scanf("%d",&plno);

        plno--;
        printf("                       Player Detail\n");
        printf("==========================================================================\n");
        printf(" Batsman        runs           balls        fours      sixes         sr   \n");
        printf("==========================================================================\n");


        pl1[plno].runs=(1*pl1[plno].ones)+(2*pl1[plno].twos)+(3*pl1[plno].threes)+(4*pl1[plno].fours)+(6*pl1[plno].sixes);
        pl1[plno].str=(pl1[plno].runs*100.00)/pl1[plno].balls;
        printf(" %-15s %-14d %-13d %-11d %-11d %-9.2f\n\n",pl1[plno].name,pl1[plno].runs,pl1[plno].balls,pl1[plno].fours,pl1[plno].sixes,pl1[plno].str);

        break;
```

Case 2: Bowler Details Display

Explanation:

- The program calculates total runs and strike rate for a selected batsman and displays them.

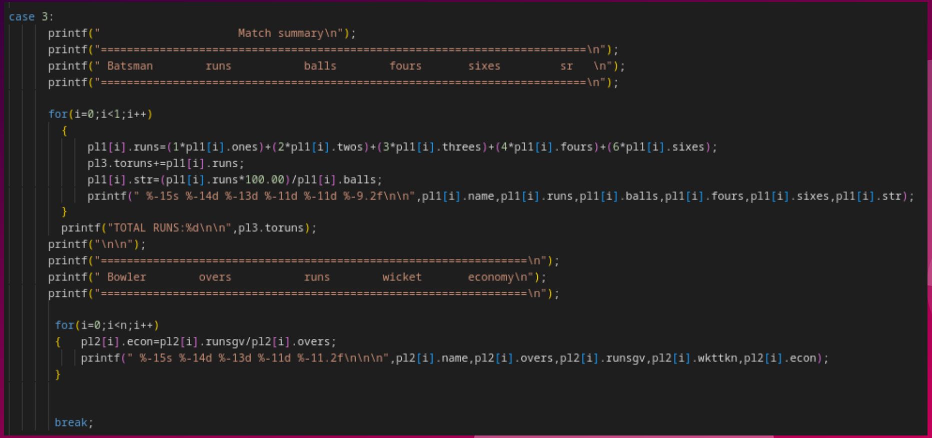


```c
case 2:
    printf("Enter the bowlers number to see his details\n");
    scanf("%d",&plno);

    plno--;
     printf("                         Player Detail\n  ");
     printf("=================================================================\n");
     printf(" Bowler       overs           runs        wicket       economy\n");
     printf("=================================================================\n");

      for(i=0;i<n;i++)
      {   pl2[plno].econ=pl2[plno].runsgv/pl2[plno].overs;
          printf(" %-15s %-14d %-13d %-11d %-11.2f\n\n",pl2[plno].name,pl2[plno].overs,pl2[plno].runsgv,pl2[plno].wkttkn,pl2[plno].econ);
      }

    break;
```

Case 3: Match Summary

Explanation:

- Calculates and displays total runs scored by a batsman in the match.

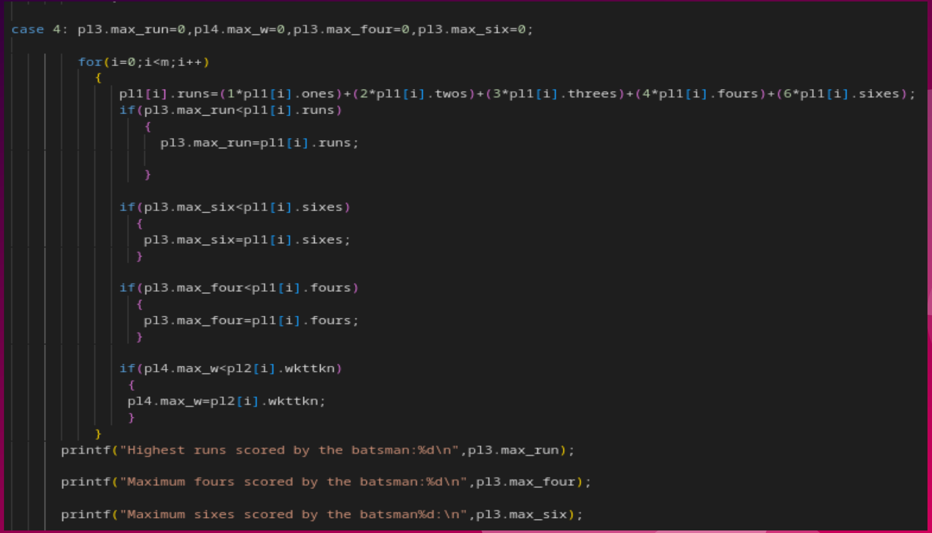


```c
case 3:
        printf("                    Match summary\n");
        printf("=========================================================================\n");
        printf(" Batsman        runs            balls        fours       sixes         sr   \n");
        printf("=========================================================================\n");

        for(i=0;i<1;i++)
          {
              pl1[i].runs=(1*pl1[i].ones)+(2*pl1[i].twos)+(3*pl1[i].threes)+(4*pl1[i].fours)+(6*pl1[i].sixes);
              pl3.toruns+=pl1[i].runs;
              pl1[i].str=(pl1[i].runs*100.00)/pl1[i].balls;
              printf(" %-15s %-14d %-13d %-11d %-11d %-9.2f\n\n",pl1[i].name,pl1[i].runs,pl1[i].balls,pl1[i].fours,pl1[i].sixes,pl1[i].str);
          }
          printf("TOTAL RUNS:%d\n\n",pl3.toruns);
        printf("\n\n");
        printf("================================================================\n");
        printf(" Bowler        overs            runs        wicket       economy\n");
        printf("================================================================\n");

         for(i=0;i<n;i++)
         {   pl2[i].econ=pl2[i].runsgv/pl2[i].overs;
             printf(" %-15s %-14d %-13d %-11d %-11.2f\n\n\n",pl2[i].name,pl2[i].overs,pl2[i].runsgv,pl2[i].wkttkn,pl2[i].econ);
         }


         break;
```

Case 4: Maximum Records

Explanation:

- Finds and displays the maximum runs scored by a batsman and the maximum wickets taken by a bowler.
- The program also finds and displays maximum fours hit by the batsman,maximum six hit by the batsman.



```c
case 4: pl3.max_run=0,pl4.max_w=0,pl3.max_four=0,pl3.max_six=0;

        for(i=0;i<m;i++)
          {
            pl1[i].runs=(1*pl1[i].ones)+(2*pl1[i].twos)+(3*pl1[i].threes)+(4*pl1[i].fours)+(6*pl1[i].sixes);
            if(pl3.max_run<pl1[i].runs)
              {
                pl3.max_run=pl1[i].runs;

              }

            if(pl3.max_six<pl1[i].sixes)
             {
              pl3.max_six=pl1[i].sixes;
             }

            if(pl3.max_four<pl1[i].fours)
             {
              pl3.max_four=pl1[i].fours;
             }

            if(pl4.max_w<pl2[i].wkttkn)
             {
             pl4.max_w=pl2[i].wkttkn;
             }
          }
      printf("Highest runs scored by the batsman:%d\n",pl3.max_run);

      printf("Maximum fours scored by the batsman:%d\n",pl3.max_four);

      printf("Maximum sixes scored by the batsman%d:\n",pl3.max_six);
```

Conclusion:

Features:

- **Player Data Handling:** The program collects detailed data for both batsmen (e.g., name, runs, boundaries, balls faced) and bowlers (e.g., runs given, wickets taken, overs bowled).
- **Dynamic Menu Options:** The menu allows users to view different statistics like individual player details, match summaries, and record-breaking performances.
- **Strike Rate and Economy Calculation:** The program calculates key performance indicators like strike rate for batsmen and economy rate for bowlers automatically.
- **Match Summary Display**: Summarizes match data, displaying total runs scored by batsmen and performance statistics for all bowlers.

Limitations:

- **Limited Error Handling**: There’s no error handling for incorrect inputs or out-of-bound array indices (e.g., selecting a non-existent player number).
- **Fixed Data Size:** The arrays (pl1[100], pl2[100]) limit the maximum number of players to 100, which is hard-coded and may not suit all use cases. Dynamic memory allocation could be better.
- **Basic User Interface:** The program only uses basic text-based input/output. It could be enhanced with a graphical interface (GUI) or formatted tables.
- **Limited to One Match**: The code structure doesn’t allow for managing or comparing statistics across multiple matches or players over time.