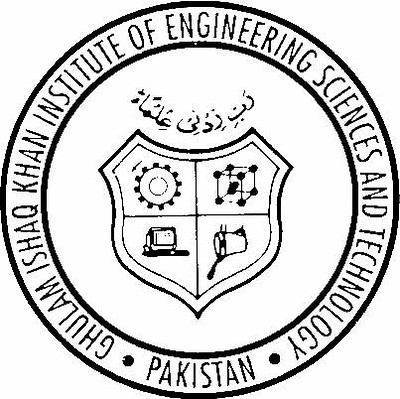
****

**PROPOSAL PROJECT TITLE:**

FOOTBALL LEAGUE MANAGEMENT SYSTEM

**TEAM MEMBERS:**

**Fasih Jan 2023201**

**Ahsan Ahmed 2023089**

**Raffay Khan 2023589**

**Statement of the Problem**   
By automating the administration of football league scores, team statistics, and match logs, the system seeks to do away with human error and inefficiencies. In addition to handling team data and match outcomes, it will produce reports that include statistical analysis, league standings, and match history.   
  
**Data Structure Selection**

1. **Linked List (TeamList):** For dynamic storage and management of team data.
2. **Binary Search Tree (MatchBST):** For efficient storage and retrieval of match data, especially for date-range queries.
3. **Vector:** For temporary storage and sorting of teams or matches.

**Algorithm Approach**

1. **Team management:** Based on the outcomes of matches, teams' statistics are updated and kept in a linked list.
2. **Match Management:** For effective date-based searching, matches are kept in a BST.  
   **Calculation of Standings:** The sort function is used to arrange teams according to points, goal differential, and goals scored.
3. **Reporting:** By navigating the BST and computing totals and averages, statistical reports are produced.

**Design of Input/Output**

**Input**

1. **Add Team:** Enter the name of the team.
2. **Record Match:** Scores, team names, and match date.
3. **Display Standings**: No input is necessary.
4. **Search Matches:** Dates of start and finish for search matches.
5. **Create Report:** No input is needed.

**Output:**

1. **Add Team:** Message of confirmation.
2. **Record Match:** Updated standings and a confirmation message.
3. **Team standings:** are displayed in a table.
4. **Search Results:** A list of results for the specified time frame.
5. **Create a report** that includes a statistical summary of all teams, games, goals, and averages.

**IN CONCLUSION**

By using fundamental programming ideas and data structures to address practical issues, the system offers a productive and intuitive way to manage football league data.