Game Theory Assignment

Name: HimaBindu Jadhav
Roll Number: IIB2021044

Report on Sports Booking Application

Introduction: This report provides an overview of the Sports Booking Application, which aims to facilitate the scheduling and booking of sports facilities in various centres. The primary objective is to create an intuitive platform that enables users to easily find and reserve courts for their chosen sports activities.

Design Decisions:

- **Modular Structure**: The application is organized into distinct components (centers, sports, bookings) to enhance maintainability and scalability.

- **User Interface**: A clean and responsive interface ensures a seamless user experience across devices.

- **Database Schema**: MongoDB was chosen for its flexibility in handling dynamic data relationships, allowing easy updates and retrieval of sports centers, courts, and bookings.

Implementation Details:

- **Technologies Used**:

    - **Frontend**: HTML, CSS, and EJS for rendering views.

    - **Backend**: Node.js and Express for server-side logic and routing.

    - **Database**: MongoDB for data storage and retrieval.

- **Rationale**: These technologies were selected for their compatibility, performance, and good community support, and easy deployment.

Challenges and Solutions:

- **Data Retrieval**: Correcting connection strings and model definitions resolved initial data retrieval issues from MongoDB.

- **Making the Website Live**: Deploying on Render.com required careful configuration of environment variables and server settings.

- **Managing Routes**: Modular routing was implemented to organize routes for improved maintainability and easier debugging.

Future Improvements

With more time, the following features could be added:

- **User Authentication**: Implement a login system for users to manage their bookings and personal information securely.

- **Real-Time Availability**: Integrate real-time updates to show court availability dynamically.

- **Notifications**: Introduce email or SMS notifications for booking confirmations and reminders.

- **Search Filters**: Allow users to filter sports centers by location, available facilities & user ratings.