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Problem for R4 Batch (Enrolment Numbers BT20CSE076 to BT20CSE100):

Online streaming services such as Netflix keep track of TV shows and movies as well as user's viewing preferences. Use the following entities and their attributes –

1. TV_Shows
   a. Name (primary key)
   b. First telecast date
   c. Total number of episodes
   d. Telecast days (use array)
   e. Original release date (if it has been already telecasted on TV)
   f. Cast
   g. Producer
   h. Writer
   i. Production company

2. Movie
   a. Name (primary key)
   b. release date
   c. Cast
   d. Producer
   e. writer
   f. soundtrack
   g. production_company
   h. budget
   i. box_office collection
   j. Awards (type of award, category, date of ceremony,receipients, result (won/nominated)

3. Cast
   a. name (you can use separate structure to store personal information about star cast) (primary key)
   b. TV shows
   c. Movies
   d. Awards (use separate structure to maintain details such as year, for which TV show or movie, use same fields as award category in movie structure)

4. User
   a. Identification number(primary key)
   b. registration date
   c. subscription details
   d. subscription plan
   e. subscription database (use separate structure to maintain date and amount of subscription transactions till date.)
   f. preferences
   g. viewing details (separate structure should be maintained for storing shows/movie viewed, viewing time,rating given etc.)

Based on above details solve the following questions (use array of structure to store database and all the records should be sorted as per the primary key).

1. **Add /update operation**
   a. Add a new TV show. While adding if any new cast is found update the cast database (same criteria should be followed for adding new movie details). For existing cast update the details of movie or TV show in cast database.
   b. Add new user and while adding if any of his/her preference matches with existing any users preferences show the list and allow him to select from them if he/she wishes.
   c. Add new cast and while adding new cast details cross verify award details with award details in movie and TV show database.

2. **Search operation**
   a. Display the details of all movies and TV shows performed by a cast. A cast name should be inputted by user. The list should be displayed in descending order of year.
   b. Display the list TV shows and movies subscribed by the user . While displaying, give the warning if subscription is about to end as the plan.
   c. Make a list of TV shows and movies produced by the same production company for the given cast details (cast details provided by the user).
   d. List all the type of awards won by the particular movie for different categories. Movie name should be given by user.

3. **Sort operation**
   a. List of all type of awards won/nominated by the cast movie-wise and TV show-wise. The list should be displayed in descending order of year of won/nominated.
   b. Divide the subscribed user in three categories. Users who are subscribed for more than 3 years – platinum user, 1.5-3 years- Gold user and less than 1.5 years- Silver user.
   c. Sort the TV shows based on users viewing time.

4. **Other operations**
   a. Identify the movie viewed by maximum number of users in a particular month of the year.
   b. List the TV shows and movies for the same casting details