Complete a system design for a Soccer Tournament System.
Assume that there are a power of 2 teams. (i.e. 2, 4, 8, 16, 23, 64, ...)

In the initial rounds the teams should be divided into pools of 4 teams each. Within each pool the teams will play matches with the other three teams. Based on the results of the matches, the top two teams from each pool will advance to the next round.

The pools of 4 teams will continue until there are only four teams left. At that point there will be two pools with two teams. The winners of this round will face each other in the final round for the championship.

You may use the following scenarios:
Assign teams into four pools for Round 1:
Pool A: Fire, Crew, United, Impact
Pool B: Revolution, Red Bulls, Union, Rapids
Pool C: Dynamo, Galaxy, Timbers, Earthquakes
Pool D: Sounders, Whitecaps, Toronto, New York

Assign the top two teams from each pool for Round 2:
Pool A: Fire, Rapids, Galaxy, Sounders
Pool B: Crew, Revolution, Timbers, Whitecaps

Assign the top two teams from each pool for Round 3:
Pool A: Fire, Revolution
Pool B: Crew, Galaxy

Assign the winners to the final Round 4:
Pool A: Revolution, Crew

Declare winner:
Crew
Complete a system design for a Chess Tournament System.
Assume that there are a power of 2 teams. (i.e. 2, 4, 8, 16, 32, 64, ...)

For each round the players should be randomly paired up for a match.
After the first round, the winners will then be randomly paired up for a match in the next round.
Repeat rounds until there is only a single champion left.

You may use the following scenarios:

Randomly assign players to a match for round 1:
Match 1: Felix & Oscar
Match 2: Lois & Clark
Match 3: Peter & M.J.
Match 4: Kirk & Spock
Match 5: Mickey & Minnie
Match 6: Holmes & Watson
Match 7: Grant & Sherman
Match 8: Penn & Teller

Randomly assign the winners of round one to a match for round 2:
Match 1: Felix & M.J.
Match 2: Lois & Kirk
Match 3: Penn & Mickey
Match 4: Sherman & Holmes

Randomly assign the winners from the previous round to matches for round 3:
Match 1: Penn & Kirk
Match 2: Felix & Holmes

Assign the winners from the previous round to round 4:
Match 1: Penn & Holmes

Continue the rounds until you have a winner.
Final winner: Holmes
Complete a system design for a Basketball Tournament System.
Assume that there are a power of 2 teams. (i.e. 2, 4, 8, 16, 23, 64, ...)

The system should create a tournament bracket system, where teams are assigned to specific games in the first round. In each subsequent round, the winners advance to the next round to play in the next round, until the final match and there is a champion.

You may use the following scenarios:
Randomly assign teams to a match for round 1:
Match 1: Hawks & Celtics
Match 2: Nets & Hornets
Match 3: Bulls & Cavaliers
Match 4: Mavericks and Nuggets
Match 5: Pistons and Warriors
Match 6: Rockets and Pacers
Match 7: Clippers and Lakers
Match 8: Grizzlies and Bucks

The winners of round 1 advance onto round 2:
Match 1: Celtics and Nets
Match 2: Bulls and Nuggets
Match 3: Pistons and Pacers
Match 4: Lakers and Bucks

The winners of round 2 advance onto round 3:
Match 1: Celtics and Bulls
Match 2: Pacers and Bucks

Assign the winners from the previous round to round 4:
Match 1: Celtics and Pacers

Continue the rounds until you have a winner.
Final winner: Pacers
Complete a system design for a Poker Tournament System.
Assume that there are a power of 2 teams. (i.e. 2, 4, 8, 16, 32, 64, ...)

For each round the players should be randomly assigned a table. 
After the first round, the winners of each table will then be randomly assigned a table in the next round. Repeat rounds until there is only a single champion left.

You may use the following scenarios:
Randomly assign players to a Table for round 1:
Table 1: Felix, Oscar, Lois, Clark  
Table 2: Peter, M.J., Kirk, Spock  
Table 3: Mickey, Minnie, Holmes, Watson  
Table 4: Grant, Sherman, Penn, Teller

Randomly assign the winners of round one to a Table for round 2:
Table 1: Oscar, Spock, Holmes, Penn

Continue the rounds until you have a winner.
Final winner: Penn