Simple Football Game

"Merancang Simulasi Permainan Bola Sederhana"

```
import math
import random
lambOne = 1.148698355
lambTwo = 0.8705505633

# Perhitungan skor goal home team dan away team

def homeMatch(homeRating,awayRating):
    global lambOne
    global x
    global y
    if x == y:
        raise ValueError
    else:
        lamb = lambOne**(int(homeRating)-int(awayRating))
        homeScore = 0
        z = random.random()
        while z > 0:
            z = z - ((lamb**homeScore * math.exp(lamb * -1))/(math.factorial(homeScore)))
            homeScore += 1
        return (homeScore-1)

def awayMatch(homeRating,awayRating):
    global lambTwo
    global x
    global y
    #This check is to stop a team playing itself
    if x == y:
        raise ValueError
    else:
        lamb = lambTwo**(int(homeRating)-int(awayRating))
        awayScore = 0
        z = random.random()
        while z > 0:
            z = z - ((lamb**awayScore * math.exp(lamb * -1))/(math.factorial(awayScore)))
            awayScore += 1
        return (awayScore-1)


leagueSize = int(input("Enter Number of Teams in league: "))

teamNames = []
teamSkill = []
teamPoints = []
teamFor = []
teamAgainst = []
teamWins = []
teamDraws = []
teamLosses = []
```

```
for x in range(leagueSize):
    teamPoints += [0]
    teamFor += [0]
    teamAgainst += [0]
    teamWins += [0]
    teamDraws += [0]
    teamLosses += [0]

for i in range(leagueSize):
    teamNames += [input("Enter team "+str(i+1)+" name: ")]
for j in range(leagueSize):
    teamSkill += [input("Enter "+teamNames[j]+" skill: ")]
```

```
 Enter Number of Teams in league: 2
 Enter team 1 name: alfin
 Enter team 2 name: joeyantu
 Enter alfin skill: 4
 Enter joeyantu skill: 7
```

```
homeScore = 0
awayScore = 0

for x in range(leagueSize):
   print('\n')
   print(teamNames[x]+"'s home games: ")
   print("========================================\n")
   for y in range(leagueSize):
        error = 0
        try:
            homeScore = homeMatch(teamSkill[x],teamSkill[y])
        except ValueError:
            pass
            error += 1
        try:
            awayScore = awayMatch(teamSkill[x],teamSkill[y])
        except ValueError:
            pass
        if error == 0:
            print(teamNames[x],homeScore,"-",awayScore,teamNames[y],"\n")
            teamFor[x] += homeScore
            teamFor[y] += awayScore
            teamAgainst[x] += awayScore
            teamAgainst[y] += homeScore
            if homeScore > awayScore:
                teamWins[x] += 1
                teamLosses[y] += 1
                teamPoints[x] += 3
            elif homeScore == awayScore:
                teamDraws[x] += 1
                teamDraws[y] += 1
                teamPoints[x] += 1
                teamPoints[y] += 1
            else:
                teamWins[y] += 1
```

```
                teamWins[y] += 1
                teamLosses[x] += 1
                teamPoints[y] += 3
        else:
            pass

print("Final table: ")
for x in range(leagueSize):
    print(teamNames[x]+(15-len(teamNames[x]))*" "+" Skill: "+str(teamSkill[x])+(5
teamPoints.sort()
print(teamPoints)
```

```
alfin's home games:
=========================================

alfin 0 - 2 joeyantu



joeyantu's home games:
=========================================

joeyantu 4 - 0 alfin

Final table:
alfin           Skill: 4     Points: 0     For: 0     Against: 6     Goal difference
joeyantu        Skill: 7     Points: 6     For: 6     Against: 0     Goal difference
[0, 6]
```

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