def readInputfile(self, inputfile):

teamplayers = set()

self.edges.clear()

with open(inputfile) as file:

**for line in file: ---------------------------🡪 n**

itemNo = 0

itemValueAtZero = ''

**for item in line.strip().split('/'): ------------------🡪 m**

item = item.strip()

teamplayers.add(item)

if itemNo == 0:

teamplayers.add(item)

itemValueAtZero = item

else:

self.edges.append([itemValueAtZero, item])

itemNo += 1

self.PlayerTeam = list(teamplayers)

**Time Complexity = O(n\*m)**

def displayAll(self):

teams=set()

players=set()

**for edge in self.edges: ----------------------------------------------------------- -> E**

teams.add(edge[0])

players.add(edge[1])

with open('outputPS10.txt', 'w') as file:

file.write("--------Function displayAll--------\n")

file.write("Total no. of franchises: %i\n" %len(teams))

file.write("Total no. of players: %i\n" %len(players))

file.write("List of franchises:\n")

**for team in teams: ------------------------------------------------------- -> n**

file.write(team)

file.write("\n")

file.write("\n")

file.write("List of players:\n")

**for player in players: ------------------------------------------------------------- -> m**

file.write(player)

file.write("\n")

file.write("-----------------------------------------\n")

**Time Complexity: O(E+n+m)**

It includes the writing to file.

def displayFranchises(self, player):

playerFranchices = []

with open('promptsPS10.txt') as file:

**for line in file: ------------------------------------------------------------🡪 n**

data = line.split(":")

if data[0].strip() == "findFranchise":

player = data[1].strip()

franchices = []

**for edge in self.edges : ------------------------------------------------🡪 m**

if edge[1]==player :

franchices.append(edge[0])

playerFranchices.append([player, franchices])

with open('outputPS10.txt', 'a') as file:

file.write("--------Function displayFranchises --------\n")

**for playerFranchice in playerFranchices : -----------------------------------🡪 k**

file.write("Player name: "+playerFranchice[0]+"\n")

file.write("List of Franchises:\n")

if len(playerFranchice[1])==0:

file.write("No franchise found\n")

else:

**for franchise in playerFranchice[1] : ----------------------------------- -> p**

file.write(franchise+"\n")

file.write("\n")

file.write("-----------------------------------------\n")

**Time Complexity: O(n\*m + k\*p)**

def displayPlayers(self, franchise):

franchisePlayers = []

with open(‘promptsPS10.txt’) as file:

**for line in file: --------------------------------------------🡪 n**

data = line.split(":")

if data[0].strip() == "listPlayers":

franchise = data[1].strip()

players = []

**for edge in self.edges : ------------------------------------ -> m**

if edge[0]==franchise :

players.append(edge[1])

franchisePlayers.append([franchise, players])

with open(‘outputPS10.txt’, ‘a’) as file:

file.write(“--------Function displayPlayers --------\n”)

**for franchisePlayer in franchisePlayers : ---------------------------------------- -> k**

file.write(“Franchise name: “+franchisePlayer[0]+”\n”)

file.write(“List of Players:\n”)

if len(franchisePlayer[1])==0:

file.write(“No Players found\n”)

else:

**for player in franchisePlayer[1] : ---------------------------------------------- -> p**

file.write(player+"\n")

file.write("\n")

file.write("-----------------------------------------\n")

**Time Complexity: O(n\*m + k\*p)**