**PYTHON MINI PROJECT REPORT**

**Problem statement:** Given previous data about IPL cricket tournaments, select a team for various home-grounds

* 1. Which must include 1 wicket keeper,
  2. A minimum Of 4 batsmen, 3 bowlers and 2 all-rounders.
  3. With one extra player.

Formulate the Teams based on the above criteria.

**Python source code:**

import pandas as pd

super=list()#Used to prevent repetition of players

#Home ground : cities, teams and venues

info=pd.read\_csv("matches.csv")

c=list()#city

t=list()#team

v=list()#venue

info=pd.DataFrame(info,columns=["city","team1","team2","venue"])

for i in range(1,636):

if info["city"][i] not in c:

if str(info["city"][i]) in str(info["team1"][i]):

c.append(info["city"][i])

v.append(info["venue"][i])

t.append(info["team1"][i])

elif str(info["city"][i]) in str(info["team2"][i]):

c.append(info["city"][i])

v.append(info["venue"][i])

t.append(info["team2"][i])

#To find appropriate bowlers

info2=pd.read\_csv("deliveries.csv")

info2=pd.DataFrame(info2,columns=["bowler","player\_dismissed"])

bow=list()

wic=list()

k=list()

sum=0

bowlers=list()#Bowlers for individual teams

for i in range(0,10000):

if info2["bowler"][i] not in bow:

bow.append(info2["bowler"][i])

for j in range(i,10000):

if str(info2["player\_dismissed"][j]) !="nan":

sum=sum+1

wic.append(sum)#To find the wickets of each bowler

sum=0

k=list(zip(bow,wic))

sk=sorted(k,key=lambda x:x[1])

for i in range(0,24,3):

bowlers.append([ele[0] for ele in sk[58+i:i+3+58]])#Selecting average bowlers

#SUPER LIST

for ele in bowlers:

for i in range(0,3):

super.append(ele[i])

#To find the best batsmen

df=pd.read\_csv('deliveries.csv')

df = pd.DataFrame(df, columns= ['batsman','batsman\_runs'])

total\_runs=list()

batsman\_name=list()

q=list()

batters=list()#Batsmen for individual teams

for i in range(0,1000):

if(df['batsman'][i] not in batsman\_name):

if(df['batsman'][i] not in super):

max\_runs=0

batsman\_name.append(df['batsman'][i])

for j in range(0,1000):

if(df['batsman'][i]==df['batsman'][j]):

max\_runs=max\_runs+df['batsman\_runs'][j]#To find the total runs of each batsman

total\_runs.append(max\_runs)

q=list(zip(batsman\_name,total\_runs))

sq=sorted(q,key=lambda x:x[1],reverse=True)

for i in range(0,40,5):

batters.append([ele[0] for ele in sq[i:i+5]])#Selecting the best batsmen

#SUPER LIST

for ele in batters:

for i in range(0,5):

super.append(ele[i])

#To find wicket keepers

df=pd.read\_csv('deliveries.csv')

df = pd.DataFrame(df, columns= ['fielder','dismissal\_kind','batsman'])

wicket\_keeper=list()

wicketkep=list()#Wicket keeper for individual team

for i in range(0,50000):

if(df["fielder"][i] not in super and df["fielder"][i] not in wicket\_keeper):

if(df['dismissal\_kind'][i]=='stumped'):

wicket\_keeper.append(df['fielder'][i])

wicketkep=[ele for ele in wicket\_keeper[1:9]]#Selecting wicket keeper

#SUPER LIST

for ele in wicketkep:

super.append(ele)

#To find all rounders

all\_rounder=list()

all\_round=list()#All rounders for individual teams

for i in range(0,10000):

if(df['batsman'][i]not in super and df['batsman'][i] not in all\_rounder):

all\_rounder.append(df['batsman'][i])

for i in range(0,18,2):

all\_round.append([ele for ele in all\_rounder[i:i+2]])#Selecting all rounders

#TO DISPLAY ALL THE 8 NEWLY GENERATED TEAMS

print("The newly generated teams are:-")

print()

for i in range(0,8):

print("\tTeam: ",i+1)

print("\tCity: ",c[i]," | Team: ",t[i]," | Venue: ",v[i])

print()

print("Bowlers")

print()

for ele in bowlers[i]:

print(ele,end=" ")

print()

print()

print("Batsmen")

print()

for ele in batters[i]:

print(ele,end=" ")

print()

print()

print("Wicket keeper")

print()

print(wicketkep[i])

print()

print("Allrounder")

print()

for ele in all\_round[i-1]:

print(ele,end=" ")

print()

print()

**Output** :

The newly generated teams are:-

Team: 1

City: Pune | Team: Rising Pune Supergiant | Venue: Maharashtra Cricket Association Stadium

Bowlers

MP Stoinis MM Sharma AR Patel

Batsmen

SR Watson Sachin Baby STR Binny S Aravind YS Chahal

Wicket keeper

RV Uthappa

Allrounder

SA Yadav Harbhajan Singh

Team: 2

City: Bangalore | Team: Royal Challengers Bangalore | Venue: M Chinnaswamy Stadium

Bowlers

T Natarajan P Kumar DS Kulkarni

Batsmen

TS Mills A Choudhary PA Patel JC Buttler RG Sharma

Wicket keeper

Vishnu Vinod

Allrounder

S Dhawan Iqbal Abdulla

Team: 3

City: Hyderabad | Team: Sunrisers Hyderabad | Venue: Rajiv Gandhi International Stadium, Uppal

Bowlers

MS Gony S Kaushik DR Smith

Batsmen

N Rana AT Rayudu AM Rahane MA Agarwal SPD Smith

Wicket keeper

MV Boucher

Allrounder

P Negi AP Tare

Team: 4

City: Mumbai | Team: Mumbai Indians | Venue: Wankhede Stadium

Bowlers

SB Jakati Sandeep Sharma YK Pathan

Batsmen

BA Stokes MS Dhoni JJ Roy BB McCullum SK Raina

Wicket keeper

Kamran Akmal

Allrounder

SW Billings KK Nair

Team: 5

City: Kolkata | Team: Kolkata Knight Riders | Venue: Eden Gardens

Bowlers

CR Woakes Kuldeep Yadav TA Boult

Batsmen

AJ Finch KD Karthik G Gambhir CA Lynn MK Tiwary

Wicket keeper

SP Goswami

Allrounder

SV Samson RR Pant

Team: 6

City: Delhi | Team: Delhi Daredevils | Venue: Feroz Shah Kotla

Bowlers

PP Chawla SP Narine KA Pollard

Batsmen

DT Christian HM Amla M Vohra WP Saha GJ Maxwell

Wicket keeper

YV Takawale

Allrounder

CH Morris CR Brathwaite

Team: 7

City: Chennai | Team: Chennai Super Kings | Venue: MA Chidambaram Stadium, Chepauk

Bowlers

JJ Bumrah KH Pandya TG Southee

Batsmen

DA Miller TM Head KM Jadhav MC Henriques Yuvraj Singh

Wicket keeper

AC Gilchrist

Allrounder

PJ Cummins A Mishra

Team: 8

City: Kochi | Team: Kochi Tuskers Kerala | Venue: Nehru Stadium

Bowlers

HH Pandya MJ McClenaghan A Zampa

Batsmen

DJ Hooda BCJ Cutting CH Gayle Mandeep Singh DA Warner

Wicket keeper

PR Shah

Allrounder

S Nadeem Z Khan