Name: AKSHIT DHAKE

Roll no: 322 [C2]

PRN: 202201040177

Aim: Prepare/Take datasets for any real-life application. Read the data from csv files holding the datasets. Data will be held in different structures i.e., Lists, Tuples, and Dictionary. The following 10 queries are performed:

Database:-1

A	B	C	D	E	F	G	H
1	Mumbai Indian	A	maharastra	10	7	8	0
2	Chennai Super Kings	A	tamil Nadu	8	5	7	6
3	Royal Challenger Banglore	B	Karnataka	6	1	4	0
4	Gujarat Titans	C	Gujarat	10	8	5	6
5	Lucknow Super Giants	C	Utter Pradesh	12	7	2	3
6	Sunrisers Hyderabad	C	Telangana	6	2	3	5
7	Kolkata Knight Riders	C	Bengal	8	3	9	0
8	Rajasthan Royals	E	Rajesthan	10	5	0	2
9	Delhi Capitals	E	Delhi	12	5	1	7
10	Punjab Kings	F	Punjab	12	8	4	14
11	Pune Warriors India	G	maharastra	12	7	8	0
12	Mumbai Cricket team	G	maharastra	8	3	6	1
13	Napur Royals	G	maharastra	6	1	5	0
14	Delhi Cricket team	H	Delhi	10	6	3	2
15	Hyderabad Cricket team	H	Telangana	8	4	2	0
16	Jammbu Cricket team	H	Jammu	6	1	9	2

Database:-2

	A	B	C	D	E	F
1	1	mirzapur3	Partham	Crime	3.32	2017
2	2	mirzapur2	Partham	Crime	4.52	2015
3	3	mirzapur1	Partham	Crime	5.6	2013
4	4	Stranger things	Nihar	Horror	6.7	2012
5	5	Squid Games	Shravani	Funny	2.3	2020
6	6	Tandav	Nandini	Dhrama	1.5	2022
7	7	The Punisher	Nandini	Detective	9	2023
8	8	Dare Devil	Shreya	Horror	8.9	2017
9	9	The Spy	Aditi	Detective	5.7	2017
10	10	Loki	Om	Funny	3.45	2010
11	11	Moon Knight	Om	Action	9	2023
12	12	Sweet Tooth	Shreya	Crime	10	1980
13	13	Hawkeye	Aditi	Action	11	2017
14	14	The Witcher	Partham	Horror	12	2018
15	15	Lucky Hank	Apporva	Funny	14	2017

Database:-3

	A	B	C	D	E
1	Product ID	Product de	Supplier D	Customer	Gender
2	M00001	Fan	Prathame:	Shravani I	Female
3	M00002	Tube light	Nihar Elc	Siddant M	Male
4	M00003	Bulb	Apporva s	Kishor Pat	Male
5	M00004	Led lights	Maynak el	Nandini Tl	Female
6	M00005	Zero Bulb	Maynak el	Shreya Jos	Female
7	M00006	Fan	Prathame:	Aaditya In	Male
8	M00007	Plug	Nihar Elc	Prajwal G	Male
9	M00008	Board	Nihar Elc	Sahil Chat	Male
10	M00009	Bulb	Apporva s	Deliya Kac	Female
11	M00010	Bulb	Apporva s	Atharva N	Male

CODE 1:-

```python
print("DATASET 1")

file1 = open("cricketss.csv","r")

teams = []
groups = []
state= {}
played = ()
won = ()
wickets = ()
cups = []

plist = list(played)
wlist = list(won)
glist = list(wickets)

while True:
  data = file1.readline()
  if not data:
    break

  temp = data.split(",")
  teams.append(temp[1])
  groups.append(temp[2])
  state.update({temp[1]:temp[3]})
  plist.append(int(temp[4]))
  wlist.append(int(temp[5]))
  glist.append(int(temp[6]))
  cups.append(int(temp[7]))
file1.close()

played = tuple(plist)
won = tuple(wlist)
wickets = tuple(glist)

print("Teams = ",teams)
print("\nGroups = ",groups)
print("\States = ",state)
print("\nPlayed = ",played)
print("\nWon = ",won)
print("\nWickets = ",wickets)
print("\nCups = ",cups)
```

```python
max_g = max(glist)
max_gteam = teams[glist.index(max_g)]
print("Most wickets scoring team is:",max_gteam,"with",max_g,"wickets")
print()


from collections import Counter
most_common_grp,freq = Counter(groups).most_common(1)[0]
print("Group with maximum teams is:
Group",most_common_grp,"having",freq,"teams")
print()



ratio1 = []
for w,p in zip(wlist,plist):
  ratio1.append(w/p)
best_ratio = max(ratio1)
best_ratio_team = teams[ratio1.index(best_ratio)]
print("Team with best Win:Play ratio is:",best_ratio_team,"with
ratio:",best_ratio)
print()

ratio2 = []
for g,p in zip(glist,plist):
    ratio2.append(g/p)
worst_ratio = min(ratio2)
worst_ratio_team = teams[ratio2.index(worst_ratio)]
print("Team with poorest Wickets:Play ratio is:",worst_ratio_team,"with
ratio:",worst_ratio)
print()

max_c = max(cups)
max_cteam = teams[cups.index(max_c)]
print("Most successful team is:",max_cteam,"with",max_c,"Titles")
print()
```

DATASET 1
Teams = ['Mumbai Indian', 'Chennai Super Kings', 'Royal Challenger Banglore', 'Gujarat Titans', 'Lucknow Super Giants', 'Sunrisers Hyderabad', 'Kolkata Knight Riders', 'Rajasthan Royals', 'Delhi Capitals', 'Punjab Kings', 'Pune Warriors India', 'Mumbai Cricket team', 'Napur Royals', 'Delhi Crick

Groups = ['A', 'A', 'B', 'C', 'C', 'C', 'C', 'E', 'E', 'F', 'G', 'G', 'G', 'H', 'H', 'H']
\States = {'Mumbai Indian': 'maharastra', 'Chennai Super Kings': 'tamil Nadu', 'Royal Challenger Banglore': 'Karnataka', 'Gujarat Titans': 'Gujarat', 'Lucknow Super Giants': 'Utter Pradesh', 'Sunrisers Hyderabad': 'Telangana', 'Kolkata Knight Riders': 'Bengal', 'Rajasthan Royals': 'Rajesthan', '

Played = (10, 8, 6, 10, 12, 6, 8, 10, 12, 12, 12, 8, 6, 10, 8, 6)

Won = (7, 5, 1, 8, 7, 2, 3, 5, 5, 8, 7, 3, 1, 6, 4, 1)

Wickets = (8, 7, 4, 5, 2, 3, 9, 0, 1, 4, 8, 6, 5, 3, 2, 9)

Cups = [0, 6, 0, 6, 3, 5, 0, 2, 7, 14, 0, 1, 0, 2, 0, 2]
Most wickets scoring team is: Kolkata Knight Riders with 9 wickets

Group with maximum teams is: Group C having 4 teams

Team with best Win:Play ratio is: Gujarat Titans with ratio: 0.8

Team with poorest Wickets:Play ratio is: Rajasthan Royals with ratio: 0.0

Most successful team is: Punjab Kings with 14 Titles

OUTPUT(IN WORDS):-

DATASET 1
Teams = ['Mumbai Indian', 'Chennai Super Kings', 'Royal Challenger Banglore', 'Gujarat Titans', 'Lucknow Super Giants', 'Sunrisers Hyderabad', 'Kolkata Knight Riders', 'Rajasthan Royals', 'Delhi Capitals', 'Punjab Kings', 'Pune Warriors India', 'Mumbai Cricket team', 'Napur Royals', 'Delhi Cricket team', 'Hyderabad Cricket team', 'Jammbu Cricket team']

Groups = ['A', 'A', 'B', 'C', 'C', 'C', 'C', 'E', 'E', 'F', 'G', 'G', 'G', 'H', 'H', 'H']
\States = {'Mumbai Indian': 'maharastra', 'Chennai Super Kings': 'tamil Nadu', 'Royal Challenger Banglore': 'Karnataka', 'Gujarat Titans': 'Gujarat', 'Lucknow Super Giants': 'Utter Pradesh', 'Sunrisers Hyderabad': 'Telangana', 'Kolkata Knight Riders': 'Bengal', 'Rajasthan Royals': 'Rajesthan', 'Delhi Capitals': 'Delhi', 'Punjab Kings': 'Punjab', 'Pune Warriors India': 'maharastra', 'Mumbai Cricket team': 'maharastra', 'Napur Royals': 'maharastra', 'Delhi Cricket team': 'Delhi', 'Hyderabad Cricket team': 'Telangana', 'Jammbu Cricket team': 'Jammu'}

Played = (10, 8, 6, 10, 12, 6, 8, 10, 12, 12, 12, 8, 6, 10, 8, 6)

Won = (7, 5, 1, 8, 7, 2, 3, 5, 5, 8, 7, 3, 1, 6, 4, 1)

Wickets = (8, 7, 4, 5, 2, 3, 9, 0, 1, 4, 8, 6, 5, 3, 2, 9)

Cups = [0, 6, 0, 6, 3, 5, 0, 2, 7, 14, 0, 1, 0, 2, 0, 2]
Most wickets scoring team is: Kolkata Knight Riders with 9 wickets

Group with maximum teams is: Group C having 4 teams

Team with best Win:Play ratio is: Gujarat Titans with ratio: 0.8

Team with poorest Wickets:Play ratio is: Rajasthan Royals with ratio: 0.0

Most successful team is: Punjab Kings with 14 Titles

Code2:

Input (in words):-

```python
file2 = open("movies.csv","r")

webseries = []
director = {}
genre = []
viewers = {}
year = ()

ylist = list(year)

while True:
  data = file2.readline()
  if not data:
    break

  temp = data.split(",")
  webseries.append(temp[1])
  director.update({temp[1]:temp[2]})
  genre.append(temp[3])
  viewers.update({temp[1]:float(temp[4])})
  ylist.append(int(temp[5]))
file2.close()

year = tuple(ylist)

print("websires = ",webseries)
print("\ndirector = ",director)
print("\nGenres = ",genre)
print("\nviewers(Biliions) = ",viewers)
print("\nRelease Year = ",year)
sortdict = sorted(viewers.items(),key = lambda
x:x[1],reverse=True)
sorted_dict = dict(sortdict)
```

```python
sorted_viewers= list(sorted_dict.values())
sorted_webseries = list(sorted_dict.keys())
print("Top 3 webseries are
:\n1.",sorted_webseries[0],"with",sorted_viewers[0],"billion monthly
viewers\n2,",sorted_webseries[1],"with",sorted_viewers[1],"billion monthly
viewers\n3.",sorted_webseries[2],"with",sorted_viewers[2],"billion monthly
viewers\n")

from collections import Counter
most_common_genre,freq = Counter(genre).most_common(1)[0]
print("The most common genre
is:",most_common_genre,"with",freq,"webseries")
print()

most_pop_webseries = sorted_webseries[0]
most_pop_director = director[most_pop_webseries]
print("Most popular websires
is:",most_pop_director,"with",sorted_viewers[0],"billion viewers")
print()
from collections import Counter
most_releases,freq = Counter(year).most_common(1)[0]
print("The year with most releases
is:",most_releases,"with",freq,"webseries")
print()
```


OUTPUT(IN WORDS):-

websires = ['mirzapur3', ' mirzapur2', 'mirzapur1', 'Stranger things', 'Squid Games', 'Tandav', 'The Punisher', 'Dare Devil', 'The Spy', 'Loki', 'Moon Knight', 'Sweet Tooth', 'Hawkeye', 'The Witcher', 'Lucky Hank']

director = {'mirzapur3': 'Partham', ' mirzapur2': 'Partham', 'mirzapur1': 'Partham', 'Stranger things': 'Nihar', 'Squid Games': 'Shravani', 'Tandav': 'Nandini', 'The Punisher': 'Nandini', 'Dare Devil': 'Shreya', 'The Spy': 'Aditi', 'Loki': 'Om', 'Moon Knight': 'Om', 'Sweet Tooth': 'Shreya', 'Hawkeye': 'Aditi', 'The Witcher': 'Partham', 'Lucky Hank': 'Apporva'}

Genres = ['Crime', 'Crime', 'Crime', 'Horror', 'Funny', 'Dhrama', 'Detective', 'Horror', 'Detective', 'Funny', 'Action', 'Crime', 'Action', 'Horror', 'Funny']

viewers(Biliions) = {'mirzapur3': 3.32, ' mirzapur2': 4.52, 'mirzapur1': 5.6, 'Stranger things': 6.7, 'Squid Games': 2.3, 'Tandav': 1.5, 'The Punisher': 9.0, 'Dare Devil': 8.9, 'The Spy': 5.7, 'Loki': 3.45, 'Moon Knight': 9.0, 'Sweet Tooth': 10.0, 'Hawkeye': 11.0, 'The Witcher': 12.0, 'Lucky Hank': 14.0}

Release Year = (2017, 2015, 2013, 2012, 2020, 2022, 2023, 2017, 2017, 2010, 2023, 1980, 2017, 2018, 2017)

Top 3 webseries are :
1. Lucky Hank with 14.0 billion monthly viewers
2, The Witcher with 12.0 billion monthly viewers
3. Hawkeye with 11.0 billion monthly viewers

The most common genre is: Crime with 4 webseries

Most popular websires is: Apporva with 14.0 billion viewers

The year with most releases is: 2017 with 5 webseries

CODE3:-

```python
product_details=[]
supplier_details=dict()
customer_details=[]
gender={}
fp1=open("practical.csv","r")
data=fp1.readline()
while(True):
  data=fp1.readline()
  if not data:
    break;
  temp=data.split(",")
  product_details.append(temp[1])
  customer_details.append(temp[3])
  supplier_details.update({temp[0]:temp[2]})
  gender.update({temp[3]:temp[4]})
fp1.close()
customer_details=tuple(customer_details)
print(type(customer_details))
print(" ")
print("\nProduct Details\n",product_details,end="")
print(" ")
print("\nCustomer Details\n",customer_details,end="")
print(" ")
print("\nSupplier Details\n",supplier_details,end="")
print(" ")
print("\nGender Details\n",gender,end="")
print(" ")
frequency={}
for item in product_details:
  if item in frequency:
    frequency[item] += 1
  else:
    frequency[item]=1
print(frequency)
print(" ")
marklist=sorted(frequency.items(),key=lambda x:x[1],reverse=True)
sortdict=dict(marklist)
print(sortdict)
print(" ")
print("The most popular product for
sales",list(sortdict.keys())[0],"sold",list(sortdict.values())[0],"times")
print(" ")
```

Product Details
  ['Fan', 'Tube light', 'Bulb', 'Led lights', 'Zero Bulb', 'Fan', 'Plug', 'Board', 'Bulb', 'Bulb']

Customer Details
  ('Shravani Ingle', 'Siddant Mishra', 'Kishor Patil', 'Nandini Thorat', 'Shreya Joshi', 'Aaditya Ingle', 'Prajwal Ganar', 'Sahil Chaudhari', 'Deliya Kade', 'Atharva Nehete')

Supplier Details
  {'M00001': 'Prathamesh Elc', 'M00002': 'Nihar Elc', 'M00003': 'Apporva sales', 'M00004': 'Maynak elc', 'M00005': 'Maynak elc', 'M00006': 'Prathamesh Elc', 'M00007': 'Nihar Elc', 'M00008': 'Nihar Elc', 'M00009': 'Apporva sales', 'M00010': 'Apporva sales'}

Gender Details
  {'Shravani Ingle': 'Female\n', 'Siddant Mishra': 'Male\n', 'Kishor Patil': 'Male\n', 'Nandini Thorat': 'Female\n', 'Shreya Joshi': 'Female\n', 'Aaditya Ingle': 'Male\n', 'Prajwal Ganar': 'Male\n', 'Sahil Chaudhari': 'Male\n', 'Deliya Kade': 'Female\n', 'Atharva Nehete': 'Male\n'}
{'Fan': 2, 'Tube light': 1, 'Bulb': 3, 'Led lights': 1, 'Zero Bulb': 1, 'Plug': 1, 'Board': 1}

{'Bulb': 3, 'Fan': 2, 'Tube light': 1, 'Led lights': 1, 'Zero Bulb': 1, 'Plug': 1, 'Board': 1}

The most popular product for sales Bulb sold 3 times

OUTPUT(IN WORDS):-

<class 'tuple'>

Product Details
 ['Fan', 'Tube light', 'Bulb', 'Led lights', 'Zero Bulb', 'Fan', 'Plug', 'Board', 'Bulb', 'Bulb']

Customer Details
 ('Shravani Ingle', 'Siddant Mishra', 'Kishor Patil', 'Nandini Thorat', 'Shreya Joshi', 'Aaditya Ingle', 'Prajwal Ganar', 'Sahil Chaudhari', 'Deliya Kade', 'Atharva Nehete')

Supplier Details
 {'M00001': 'Prathamesh Elc', 'M00002': 'Nihar Elc', 'M00003': 'Apporva sales', 'M00004': 'Maynak elc', 'M00005': 'Maynak elc', 'M00006': 'Prathamesh Elc', 'M00007': 'Nihar Elc', 'M00008': 'Nihar Elc', 'M00009': 'Apporva sales', 'M00010': 'Apporva sales'}

Gender Details
 {'Shravani Ingle': 'Female\n', 'Siddant Mishra': 'Male\n', 'Kishor Patil': 'Male\n', 'Nandini Thorat': 'Female\n', 'Shreya Joshi': 'Female\n', 'Aaditya Ingle': 'Male\n', 'Prajwal Ganar': 'Male\n', 'Sahil Chaudhari': 'Male\n', 'Deliya Kade': 'Female\n', 'Atharva Nehete': 'Male\n'}
{'Fan': 2, 'Tube light': 1, 'Bulb': 3, 'Led lights': 1, 'Zero Bulb': 1, 'Plug': 1, 'Board': 1}

{'Bulb': 3, 'Fan': 2, 'Tube light': 1, 'Led lights': 1, 'Zero Bulb': 1, 'Plug': 1, 'Board': 1}

The most popular product for sales Bulb sold 3 times