DATA FRAMES ASSIGNMENT

Q1. Create the following dataframes:

i. CricketPlayers from a list of dictionaries containing names of five cricket players, number of matches played and Average Score.
ii. Items from a list of dictionaries containing names of five items, cost price, sales price, discount(if any).
iii. Result from a dictionary of series containing rollnumber of 6 students and their percentage in last five years
iv. Monuments from a dictionary of series containing names of 10 monuments, their year of built, place and who built them
v. Countries from a list of dictionaries containing names of 10 countries, its national animal, bird and currency.

Q2. Consider the following dataframe RESULTSHEET:

	UT1	Half Yearly	UT2	Final
Sharad	57	83	49	89
Mansi	86	67	87	90
Kanika	92	78	45	66
Ramesh	52	84	55	78
Ankita	93	75	87	69
Pranay	98	79	88	96

Here, Names of the students are row labels and term names (UT1, Half Yearly, UT2 and Final) are the column labels. Answer the following questions based on the above dataframe:

a. Change the row labels from student name to roll numbers from 1 to 6.
b. Change the column labels to Term1, Term2, Term3, Term4.
c. Add a new column Grade with values ‘A’, ‘A’,’B’,’A’,’C’, ‘B’
d. Add a new row for the student with row label=7 and marks equal to 49, 56, 75,58 and grade=b.
e. Delete the first row
f. Delete the third column
g. Display 2nd row with all columns
h. Display students who have scored more than 50 in Final exam
i. Check students who have grade as A
j. Display marks in Half Yearly and Final of all students
k. Display marks of students from Mansi to Ankita
l. Display marks of Mansi to Ankita in UT1 and UT2
m. Display marks of Kanika and Ankita in Half Yearly and Final
n. Display first 3 records
o. Display last four records

Q3. Write a Python program to create the following dataframe DOCTOR using the index values as 10,20,30,40, 50, 60, 70.

ID	NAME	DEPT	EXPERIENCE
101	JOHN	ENT	12
102	SMITH	ORTHOPEDIC	5
103	GEORGE	CARDIOLOGY	10
104	LARA	SKIN	3
105	K GEORGE	MEDICINE	9
106	JOHNSON	ORTHOPEDIC	10
107	LUCY	ENT	3

Q4. Give commands to perform the following operations on the dataframe DOCTOR:

a. Write code to display the details of LARA using loc.
b. Write code to display the details of LARA and LUCY using iloc.
c. Write code to display all doctor's names.
d. Write code to display all doctor's names along with DEPT
e. Write code to display the first 3 records from the dataframe.
f. Write code to display the last 4 records from the data frame.
g. Write code to display the department and experience of doctors with names JOHN and SMITH.
h. Write code to display 2nd to 6th record
i. Display all the odd numbered records.
j. Write code to insert a column named "AGE" giving appropriate values to each doctor.

Q5. Give the output:

a.
```
import pandas as pd
l1=[{1:"Ramit",2:"Sahil",3:"Mohit"}, {1:"Akshay",3:"Sanjana"}]
df=pd.DataFrame(l1)
print(df)
```
b.
```
import pandas as pd
a=[[10,"Ankit"],[20,"Chanchal"],[30,"Ramesh"],[40,"Vikul"]]
b=pd.DataFrame(a)
print(b)
```
c.
```
import pandas as pd
d1={"Itemno":[1,2,3], "Selling_Price":[350.5,400,420], "Cost_Price":[270,180,284]}
df1=pd.DataFrame(d1)
print(df1)
```
d.
```
import pandas as pd
d2={"Empno":pd.Series([“A101”,”B102”,”C103”,”D104”]),
"Salary":pd.Series([350.5,400,420]), "Bonus":pd.Series([70,80,84,80])}
df2=pd.DataFrame(d2)
```

```
print(df2)
```

e. import pandas as pd

```
a=[[10,"Ankit"],[20,"Chanchal"],[30,"Ramesh"],[40,"Vikul"]]

b=pd.DataFrame(a, index=[1,2,3,4], columns=["Roll No.", "Name"])

print(b)
```

f. import pandas as pd

```
d2={"Empno":pd.Series([“A101”,”B102”,”C103”,”D104”], index=[1,2,3,4]),
"Salary":pd.Series([350.5,400,420], index=[1,2,4]), "Bonus":pd.Series([70, 84,80],
index=[1,3,4])}
df2=pd.DataFrame(d2)
print(df2)
```

Q6. Consider the following DataFrame Flight_Fare:

FL_NO	**AIRLINES**	**FARE**
IC701	INDIAN AIRLINES	6500
MU499	SAHARA	9400
AM501	JET AIRWAYS	13400
IC899	INDIAN AIRLINES	8300
IC302	INDIAN AIRLINES	4300

Give the output of the following commands:

a. Flight_Fare [Flight_Fare.index>1]
b. Flight_Fare [(Flight_Fare .FARE>=4000)&(Flight_Fare .FARE<=9000)]
c. Flight_Fare [(Flight_Fare .FL_NO== "IC701")| (Flight_Fare .FL_NO== "AM501")| (Flight_Fare .FL_NO== " IC302")]
d. Flight_Fare [(Flight_Fare .FARE>=4000)&(Flight_Fare .FARE<=9000)][["FL_NO", "FARE"]]
e. Flight_Fare [2:4]
f. Flight_Fare [:4]
g. Flight_Fare [::3]
h. Flight_Fare [:: -3]
i. Flight_Fare [3:]
j. Flight_Fare.loc[1:4,'FL_NO':'FARE']
k. Flight_Fare.loc[1:4,['FL_NO','FARE']]
l. Flight_Fare.iloc[[0,2,4]]
m. Flight_Fare.iloc[:,1:3]
n. Flight_Fare.iloc[1:2,1:3]

o. Flight_Fare.loc[1:3]
p. Flight_Fare.loc[:,'FL_NO':'FARE']
q. Flight_Fare ["Tax%"] = [10,8,9,5,7]
r. Flight_Fare.loc[5]=["MC101", "DECCAN AIRLINES", "3500",”10”]
s. Flight_Fare.loc [:,"Disc%"] = [2,3,2,4,2]
t. Flight_Fare =Flight_Fare.drop("Tax%", axis=1)
u. Flight_Fare =Flight_Fare.drop(4, axis=0)
v. Flight_Fare =Flight_Fare.drop([1,4] , axis=0)
w. Flight_Fare.loc[2]
x. Flight_Fare.loc[:,"FL_NO"]
y. Flight_Fare ["FARE"]>=6000

Q7. Consider a dataframe STUDETAILS with the following information:

	Class	Section
Sharad	12	A
Mansi	12	A
Radhika	12	A
Ramesh	11	B
Mohit	11	B
Pranay	11	B

i. Write a command to join dataframes: STUDETAILS and RESULTSHEET.
ii. Write a command to display records which are present in both the dataframes.
iii. Write a command to join two dataframes display data corresponding to only those records which are present in the dataframe RESULTSHEET.
iv. Write a command to join two dataframes display data corresponding to only those records which are present in the dataframe STUDDETAILS.

Q8. Consider the following two dataframes:

SHEET1

Name	Half Yearly	Final
Sharad	83	89
Mansi	67	90
Kanika	78	66
Ramesh	84	78

SHEET2

Name	Half Yearly	Final

Ankita	75	69
Pranay	79	96
Abhay	87	98

i. Write Python command to join the above two dataframes row wise.
ii. Write Python command to join the above two dataframes column wise.