TIME: 40 MIN   MM:25

Q.1 Suppose a data frame contains information about student having columns rollno, name, class and section.   4

Write the code for the following:

(i) Add one more column as fee and city.

(ii) Write syntax to transpose data frame.

(iii) Write python code to delete column fee of data frame.

(iv) Write the code to append df2 with df1

Q.2 Assume following data is stored in data frame named as df1   5

Write following commands:

(i) Find total sales per state

(ii) find total sales per employee

(iii)find total sales both employee wise and state wise

(iv)find mean, median and min sale state wise

(v)find maximum sale by individual

Name of Employee	Sales	Quarter	State
RSahay	125600	1	Delhi
George	235600	1	Tamil Naidu
JayaPriya	213400	1	Kerala
ManilaSahai	189000	1	Haryana
RymaSen	456000	1	West Bengal
ManilaSahai	172000	2	Haryana
JayaPriya	201400	2	Kerala

Q.3   State the difference between sort_index() and sort_values() methods.   2

Q.4   (a) a = pd.DataFrame([1, 1, 1, np.nan], index=['a', 'b', 'c', 'd'],columns=['one']). What is O/P? 2

(b)   import pandas as pd   2

```
data = [1,2,3,4,5]
df = pd.DataFrame(data)
print (df)
```

What will Print in Output ?

Q.5 Differentiate between series data structure and data frame data structure?   2

Q.6   Write Output ?   2

```
import pandas as pd
data = [{'a': 1, 'b': 2},{'a': 5, 'b': 10, 'c': 20}]
#With two column indices, values same as dictionary keys
df1 = pd.DataFrame(data, index=['first', 'second'], columns=['a', 'b'])
#With two column indices with one index with other name
df2 = pd.DataFrame(data, index=['first', 'second'], columns=['a','b1'])
print(df1)
print(df2)
```

Q. 7   (a) What is Python pandas?   1

b) What are differences between reindex() and rename()?   2

c) What is the use of pipe() in python pandas?   2

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