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**Question No: 1**

How Do you import pandas?

**Answer:**

* First we open the cmd or vs code terminal .
* Then we write this command pip install pandas with the help of this command we install pandas in our computer.(This task do only ones in time)
* Then we writer import pandas as pd in our python file the pandas was import.

**Question no 2:**

**What is Data Frame in Pandas?**

**Answer:**

Data Frame is Just like a Data that are in Two Dimension Their data arrange in Row and Column. It mostly used by data Analytics because of it is well maintain and flexible.

**Question no 3:**

**How can you read a CSV file into a pandas DataFrame?**

**Answer:**

First, we import pandas as pd

Test = pd.read\_csv(“CSV FILE NAME ”)

**Question No 4:**

**How do you select a single column from a pandas DataFrame?**

Answer:

If we want to select any Column from DataFrame

We used VaribleName = pd.DataFrame(DATAFRAME\_NAME[“COLUMN NAME”])

For Example:

We have City Column From our DataFrame by using test[‘city”] we select these Column after we Convert it into frame and store it in Cit.

cit = pd.DataFrame(test["city"])

**Question No 5:**

What is the difference between loc and iloc in pandas?

Answer:

loc and iloc both are used form retrieve or fetch data from DataFrame but the main different is that loc can fetch rows by using index number and column by using his name and iloc fetch both by using index number.

**Question no 6:**

**How can you filter rows in a pandas DataFrame based on a condition?**

**Answer**:

There are many way to Filter the DataFrame on Condition:

1. test = test[test['city']=="Xian"]

in which we used test dataframe to and filter it on the base of city name equal to Xian.

**Question No 7:**

**How do you handle missing values in a pandas DataFrame?**

1. For Handle missing value we used missingo module or library. And used different type of plot that help us to identify the missing value.

**Question no 8:**

**What are some common methods for aggregating data in pandas?**

* Mean()
* Sum()
* Min()
* Max()
* Groupby()

**Question No 9:**

**How can you merge two pandas DataFrames together?**

**Solution:**

**mar = pd.merge(test , wal , on = "Unnamed: 0")**

**Question No 10:**

**. How do you save a pandas DataFrame as a CSV file?**

**Solution:**

df1.to\_csv("Data.csv" , index=False)

df1 is dataFrame and to\_csv use to convert the dataframe in csv and “ Data.csv is name of file in which we store file” index false is use to add index.

**Question no 11:**

**How can you rename columns in a pandas DataFrame?**

**Solution:**

df1 = pd.DataFrame({'ID': [1, 2, 3, 4],

'Name': ['Usama', 'Yousaf', 'Ali', 'Usman'],

'Age': [25, 28, 31, 24]})

df1.rename(columns={"ID":"id","Age":"age"}, inplace = True)

**Question no 12:**

**What is the purpose of the groupby() function in pandas?**

The groupby() function is used to split dataFrame into group based on one or more colunms,it help to performing group-wise operations such as aggregation , transformation etc.

**Question No 13:**

**How can you sort a pandas DataFrame by a specific column?**

pd.DataFrame(test["avg\_temp\_c"].sort\_values())

**Question No 14:**

**What are some methods to apply a function to each element in a pandas DataFrame?**

We use map function

df['column\_name'] = df['column\_name'].map(lambda x: x + 1)

**Question No 15:**

**How can you create a new column in a pandas DataFrame based on existing columns?**

df[‘Colunm’] = df[‘Colums1’] + df[“Colums2”]

**16. What is the apply() function used for in pandas?**

The apply() capability in pandas is utilized to apply a capability along a hub of a DataFrame or on unambiguous sections or lines. It permits you to pass a custom capability or an implicit capability to handle the information in a DataFrame. The apply() capability can be utilized with DataFrame, Series, or individual segments. It is frequently used to perform component wise activities, information change, or information cleaning errands.

**17. How can you handle duplicates in a pandas DataFrame?**

First check the dublicate:

Duplicate\_rows = df.duplicate()

Remove:

df.drop\_duplicates()

**18. What are some ways to perform arithmetic operations between columns in a pandas DataFrame?**

There are two method

Df[“Result”] = df[“Column1”] + df[“Column2”]

Df[“Result”] = df[“Column1”].add(“Column2”)

**19. How can you change the data type of a column in a pandas DataFrame?**

df[‘Column’] = df[“Column”].astype(int)

**20. What is the purpose of the pivot\_table() function in pandas?**

Pivot\_table = df.pivot\_table(values = ‘Value’ , index = ‘Category’, columns = ‘Month’ , aggfunc = ‘sum’)

**21. How can you calculate descriptive statistics for a pandas DataFrame, such as mean, median, and standard deviation?**

S = df.describe()