Pandas Advance Quiz - 2

5 out of 8 correct

1. Given a Pandas DataFrame df with a column 'date', how can you create a new column 'month' that contains the month value of each date?

- ○ df['month'] = df['date'].month
- ○ df['month'] = df['date'].apply(lambda x: x.month)
- ○ df['month'] = pd.to_datetime(df['date']).month
- ◉ df['month'] = df['date'].dt.month

Explanation: The dt accessor is used to access the datetime components of a column in a Pandas DataFrame. Here, we can use the dt.month attribute to extract the month value of each date and create a new column.

2. How can you group a Pandas DataFrame df by the 'category' column and calculate the mean of the 'value' column for each group?

- ○ df.groupby('category').mean('value')
- ◉ df.groupby('category')['value'].mean()
- ○ df.mean('category', 'value')
- ○ df.mean(groupby='category', column='value')

Explanation: The groupby() method is used to group a DataFrame by one or more columns, and the mean() method can be used to calculate the mean value of a specific column for each group. Here, we can use the syntax df.groupby('category')['value'].mean() to group by the 'category' column and calculate the mean of the 'value' column for each group.

3. How can you create a scatter plot of two columns 'x' and 'y' in a Pandas DataFrame df?

- ◉ df.plot(x='x', y='y', kind='scatter')
- ○ df.scatter(x='x', y='y')
- ○ df.plot.scatter(x='x', y='y')
- ○ df.plot(kind='scatter', x='x', y='y')

Explanation: The plot() method can be used to create various types of plots, including scatter plots, and we can specify the columns for the x and y axes using the x and y arguments. Here, we can use the syntax df.plot(kind='scatter', x='x', y='y') to create a scatter plot of columns 'x' and 'y'.

4. How can you read a CSV file 'data.csv' into a Pandas DataFrame and display the first 5 rows of data?

- ○ df = pd.read_csv('data.csv', nrows=5)
- ○ df = pd.read_csv('data.csv', skiprows=5)
- ○ df = pd.read_csv('data.csv').head()
- ◉ df = pd.read_csv('data.csv').iloc[:5]

Explanation: The read_csv() method is used to read a CSV file into a Pandas DataFrame. We can use the iloc[] method to select the first 5 rows of data. Here, we can use the syntax df = pd.read_csv('data.csv').iloc[:5] to read the CSV file 'data.csv' and display the first 5 rows of data.

5. Which method in Pandas can be used to create a time delta object?

- ○ pd.to_timedelta()
- ○ pd.timedelta()
- ○ pd.create_timedelta()
- ◉ pd.time_delta()

Explanation: The to_timedelta() method in Pandas can be used to create a time delta object from a string, number or timedelta-like input.

6. How can you convert a column in a Pandas DataFrame to categorical data?

- ○ df.convert_to_categorical()
- ○ df.to_categorical()
- ◉ df.astype('category')
- ○ df.categorical()

Explanation: The astype() method in Pandas can be used to convert a column to categorical data by passing 'category' as the argument.

7. Which method in Pandas can be used to create a scatter plot?

- ◉ df.plot(kind='scatter')
- ○ df.plot(kind='line')
- ○ df.plot(kind='hist')
- ○ df.plot(kind='bar')

Explanation: The plot() method in Pandas can be used to create different types of plots, including scatter plots by specifying 'scatter' as the kind argument.

8. How can you drop a column from a Pandas DataFrame?

- ○ df.drop_column('column_name')

- df.remove_column('column_name')
- df.drop('column_name', axis=1)
- df.remove('column_name', axis=1)

Explanation: The drop() method in Pandas can be used to drop a column from a DataFrame by specifying the column name and axis=1. Option a and b are not valid Pandas methods and d is not a valid argument for the drop method.

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