**Python Pandas MCQ 0.1**

1. What is the primary data structure in pandas for storing and manipulating data?
   1. Series
   2. Array
   3. List
   4. Tuple
2. Which of the following is NOT a valid method to read data from a CSV file using pandas?
   1. pd.read\_csv()
   2. pd.read\_excel()
   3. pd.read\_sql()
   4. pd.read\_json()
3. How do you select a specific column 'column\_name' from a DataFrame df?
   1. df.column\_name
   2. df.select('column\_name')
   3. df['column\_name']
   4. df.loc['column\_name']
4. What is the default sorting order in pandas for the sort\_values() method?
   1. Ascending
   2. Descending
   3. Random
   4. Alphabetical
5. Which method is used to check for missing values in a pandas DataFrame?
   1. df.check\_missing()
   2. df.isnull()
   3. df.empty()
   4. df.missing\_values()
6. How do you rename the columns of a DataFrame df to ['A', 'B', 'C']?
   1. df.rename(columns=['A', 'B', 'C'])
   2. df.columns = ['A', 'B', 'C']
   3. df.rename(['A', 'B', 'C'], axis='columns')
   4. df.set\_columns(['A', 'B', 'C'])
7. In pandas, what does the groupby() method do?
   1. Aggregates data based on one or more columns
   2. Sorts data in ascending order
   3. Filters rows with specific conditions
   4. Combines two DataFrames
8. Which function is used to apply a custom function to every element of a DataFrame or Series?
   1. map()
   2. apply()
   3. transform()
   4. for\_each()
9. To drop all rows with missing values in a DataFrame df, you can use:
   1. df.dropna()
   2. df.remove\_missing()
   3. df.drop\_null()
   4. df.delete\_rows\_with\_null()
10. Which of the following is used to merge two DataFrames based on a common column?
    1. combine()
    2. concat()
    3. join()
    4. merge()
11. What is the purpose of the pivot\_table() method in pandas?
    1. Reshaping data based on the values in a column
    2. Sorting data based on a specific column
    3. Aggregating data using a summary function
    4. Merging two DataFrames
12. How can you convert a Series of strings to lowercase in a DataFrame df?
    1. df.lower()
    2. df.apply(lambda x: x.lower())
    3. df.str.lower()
    4. df.convert\_lower()
13. What is the function of the pd.cut() method in pandas?
    1. Concatenates two DataFrames
    2. Divides a continuous variable into discrete bins
    3. Merges two DataFrames based on a common column
    4. Filters rows based on a condition
14. To calculate the mean, median, and standard deviation of a column 'A' in a DataFrame df, you can use:
    1. df.mean(), df.median(), df.std()
    2. df.aggregate(['mean', 'median', 'std'])
    3. df.mean().median().std()
    4. df.describe()
15. How do you set the index of a DataFrame df to a specific column 'index\_column'?
    1. df.set\_index('index\_column')
    2. df.index('index\_column')
    3. df.change\_index('index\_column')
    4. df.index = 'index\_column'
16. Which method is used to apply a function to elements of a DataFrame along a specified axis?
    1. map()
    2. applymap()
    3. apply()
    4. transform()
17. What does the pd.to\_datetime() function do in pandas?
    1. Converts a DataFrame to a datetime format
    2. Converts a datetime column to a string format
    3. Converts a string column to a datetime format
    4. Converts a float column to an integer format
18. Which of the following is NOT a valid method to filter rows in a DataFrame based on a condition?
    1. df.filter()
    2. df[df['column'] > 5]
    3. df.query()
    4. df.loc[]
19. How can you concatenate two DataFrames vertically in pandas?
    1. pd.concat([df1, df2], axis=0)
    2. df1.append(df2, axis=1)
    3. df1.merge(df2, how='inner')
    4. df1.join(df2)
20. What does the pd.get\_dummies() function do in pandas?
    1. Encodes categorical variables as binary dummy/indicator variables
    2. Retrieves information about the DataFrame's data types
    3. Converts numeric variables to categorical variables
    4. Filters out duplicate rows
21. To calculate the correlation matrix for a DataFrame df, you can use:
    1. df.corr\_matrix()
    2. df.correlation()
    3. df.corr()
    4. df.calculate\_correlation()
22. Which method is used to perform element-wise addition between two DataFrames of the same shape?
    1. df.add()
    2. df.combine()
    3. df.merge()
    4. df.append()
23. How can you round all the values in a DataFrame df to the nearest integer?
    1. df.round()
    2. df.apply(round)
    3. df.apply(lambda x: round(x))
    4. df.int()
24. What is the purpose of the pd.melt() function in pandas?
    1. Sorts the DataFrame in ascending order
    2. Transforms wide data into long format
    3. Filters out rows with missing values
    4. Combines two DataFrames
25. Which method is used to shift the elements of a Series or DataFrame by a specified number of periods?
    1. df.shift()
    2. df.move()
    3. df.transform()
    4. df.transfer()
26. What does the pd.set\_option() function do in pandas?
    1. Sets the precision of floating-point numbers
    2. Sets the random seed for data generation
    3. Sets the DataFrame's column names
    4. Sets the data type of a column
27. How can you drop duplicate rows from a DataFrame df based on all columns?
    1. df.drop\_duplicates(subset=None)
    2. df.remove\_duplicates()
    3. df.drop\_duplicates(columns=None)
    4. df.delete\_duplicates()
28. What does the pd.to\_csv() function do in pandas?
    1. Reads data from a CSV file
    2. Converts a DataFrame to a CSV file
    3. Combines two DataFrames
    4. Calculates the mean of a column
29. What does the pd.to\_pickle() function do in pandas?
    1. Converts a DataFrame to a pickle file
    2. Converts a pickle file to a DataFrame
    3. Reads data from a pickle file
    4. Merges two DataFrames
30. How can you reset the index of a DataFrame df after setting a new index?
    1. df.reset\_index()
    2. df.set\_index(None)
    3. df.change\_index(None)
    4. df.clear\_index()