**Pandas Data Frame Question-**

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| No | Question | Input | Output |
|  | Write a Pandas program to get the powers of an array values element-wise. [Go to the editor](https://www.w3resource.com/python-exercises/pandas/index-dataframe.php#EDITOR) Note: First array elements raised to powers from second array | Sample data: {'X':[78,85,96,80,86], 'Y':[84,94,89,83,86],'Z':[86,97,96,72,83]} | Expected Output: X Y Z 0 78 84 86 1 85 94 97 2 96 89 96 3 80 83 72 4 86 86 83 |
|  | Write a Pandas program to create and display a DataFrame from a specified dictionary data which has the index labels. [Go to the editor](https://www.w3resource.com/python-exercises/pandas/index-dataframe.php#EDITOR) | Sample Python dictionary data and list labels: exam\_data = {'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Laura', 'Kevin', 'Jonas'], 'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19], 'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1], 'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']} labels = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j'] | Expected Output: attempts name qualify score a 1 Anastasia yes 12.5 b 3 Dima no 9.0 .... i 2 Kevin no 8.0 j 1 Jonas yes 19.0 |
|  | Write a Pandas program to display a summary of the basic information about a specified DataFrame and its data. | exam\_data = {'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Laura', 'Kevin', 'Jonas'], 'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19], 'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1], 'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']} labels = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j'] | Same as Q.2 |
|  | Write a Pandas program to get the first 3 rows of a given DataFrame. [Go to the editor](https://www.w3resource.com/python-exercises/pandas/index-dataframe.php#EDITOR) | Sample Python dictionary data and list labels: exam\_data = {'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Laura', 'Kevin', 'Jonas'], 'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19], 'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1], 'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']} labels = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j'] |  |
|  | Write a Pandas program to select the 'name' and 'score' columns from the following DataFrame. [Go to the editor](https://www.w3resource.com/python-exercises/pandas/index-dataframe.php#EDITOR) | Sample Python dictionary data and list labels: exam\_data = {'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Laura', 'Kevin', 'Jonas'], 'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19], 'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1], 'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']} labels = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j'] | Expected Output: Select specific columns: name score a Anastasia 12.5 b Dima 9.0 c Katherine 16.5 ... h Laura NaN i Kevin 8.0 j Jonas 19.0 |
|  | Write a Pandas program to select the specified columns and rows from a given data frame. Select 'name' and 'score' columns in rows 1, 3, 5, 6 | Sample Python dictionary data and list labels: from the following data frame. exam\_data = {'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Laura', 'Kevin', 'Jonas'], 'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19], 'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1], 'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']} labels = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j' | Expected Output: Select specific columns and rows: name score b Dima 9.0 d James NaN f Michael 20.0 g Matthew 14.5 |
|  | Write a Pandas program to select the rows where the number of attempts in the examination is greater than 2. | Sample Python dictionary data and list labels: exam\_data = {'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Laura', 'Kevin', 'Jonas'], 'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19], 'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1], 'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']}  labels = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j'] | Expected Output: Number of attempts in the examination is greater than 2: name score attempts qualify b Dima 9.0 3 no d James NaN 3 no f Michael 20.0 3 yes |
|  | Write a Pandas program to count the number of rows and columns of a DataFrame. | Sample Python dictionary data and list labels: exam\_data = {'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Laura', 'Kevin', 'Jonas'], 'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19], 'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1], 'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']} labels = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j'] | Expected Output: Number of Rows: 10 Number of Columns: 4 |
|  | Write a Pandas program to select the rows where the score is missing, i.e. is NaN. | Sample Python dictionary data and list labels: exam\_data = {'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Laura', 'Kevin', 'Jonas'], 'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19], 'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1], 'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']} labels = ['a', 'b', 'c', 'd', 'e', 'f', 'g', labels = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j'] | Expected Output: Rows where score is missing: attempts name qualify score d 3 James no NaN h 1 Laura no NaN |
|  | Write a Pandas program to select the rows the score is between 15 and 20 (inclusive). [Go to the editor](https://www.w3resource.com/python-exercises/pandas/index-dataframe.php" \l "EDITOR) | Sample Python dictionary data and list labels: exam\_data = {'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Laura', 'Kevin', 'Jonas'], 'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19], 'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1], 'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']} labels = ['a', 'b', 'c', 'd', 'e', 'f', 'g', labels = ['a', 'b', 'c', 'd', 'e', 'f', 'g', 'h', 'i', 'j'] | Expected Output: Rows where score between 15 and 20 (inclusive): attempts name qualify score c 2 Katherine yes 16.5 f 3 Michael yes 20.0 j 1 Jonas yes 19.0 |