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CS483L

6/15/2022

QUIZ#1

Github code link: https://github.com/MynameisKoi/CS483/blob/main/Lab_Quiz%231.py

1.

a.

Source code:

```
# Import pandas library
import pandas as pd

# initialize list elements
id = [12345, 12346, 12347, 12348, 12349, 12350, 12351, 12352, 12353, 12354]
name = [ 'John', 'Mike', 'Jim', 'Peter', 'Jack', 'Andrew', 'Adam', 'Jeff', 'David', 'Kevin']
gpa = [3.5, 3.45, 2.95, 3.12, 2.65, 3.01, 3.70, 2.89, 3.34, 3.82]

# Create the pandas DataFrame with column name is provided explicitly
df = pd.DataFrame(data={'Id':id, 'Name':name, 'GPA':gpa})
```

b.

Source code:

```
# Based on above dataframe, change record index to GPA
df.index = gpa
```

c.

Source code:

```
# Generate time series from 7/1/2020 to 8/1/2020
df['Date'] = pd.date_range(start = '7/1/2020', end = '8/1/2020', periods=10)
```

d.

Source code:

```
# Add one more column for student's major BSCS or MSCS
# Randomly choose one of the two major
df['Major'] = np.random.choice(['BSCS', 'MSCS'], size=10)
```

The whole source code of the program:

```
# Import pandas library
import pandas as pd
import numpy as np

# initialize list elements
id = [12345, 12346, 12347, 12348, 12349, 12350, 12351, 12352, 12353, 12354]
name = [ 'John', 'Mike', 'Jim', 'Peter', 'Jack', 'Andrew', 'Adam', 'Jeff', 'David',
'Kevin']
gpa = [3.5, 3.45, 2.95, 3.12, 2.65, 3.01, 3.70, 2.89, 3.34, 3.82]

# Create the pandas DataFrame with column name is provided explicitly
df = pd.DataFrame(data={'Id':id, 'Name':name, 'GPA':gpa})

# Based on above dataframe, change record index to GPA
df.index = gpa

# Generate time series from 7/1/2020 to 8/1/2020
df['Date'] = pd.date_range(start = '7/1/2020', end = '8/1/2020', periods=10)

# Add one more column for student's major BSCS or MSCS
# Randomly choose one of the two major
df['Major'] = np.random.choice(['BSCS', 'MSCS'], size=10)
```

```
# Align headers in center
df.columns.align = 'center'
pd.set_option('display.colheader_justify', 'center')

# Print the dataframe
print(df)
```

Run program & result:

	Id	Name	GPA	Date	Major
3.50	12345	John	3.50	2020-07-01 00:00:00	MSCS
3.45	12346	Mike	3.45	2020-07-04 10:40:00	MSCS
2.95	12347	Jim	2.95	2020-07-07 21:20:00	BSCS
3.12	12348	Peter	3.12	2020-07-11 08:00:00	BSCS
2.65	12349	Jack	2.65	2020-07-14 18:40:00	MSCS
3.01	12350	Andrew	3.01	2020-07-18 05:20:00	MSCS
3.70	12351	Adam	3.70	2020-07-21 16:00:00	BSCS
2.89	12352	Jeff	2.89	2020-07-25 02:40:00	MSCS
3.34	12353	David	3.34	2020-07-28 13:20:00	BSCS
3.82	12354	Kevin	3.82	2020-08-01 00:00:00	BSCS