

Q1. Create a Pandas Series that contains the following data: 4, 8, 15, 16, 23, and 42. Then, print the series.

ANSWER =

```
import pandas as pd
s = pd.Series([4,8,15,16,23,42])
print(s)
```

Q2. Create a variable of list type containing 10 elements in it, and apply pandas.Series function on the variable print it.

ANSWER =

```
import pandas as pd
l = [10,20,34,56,78,98,76,54,23,23]
s = pd.Series(l)
print(s)
```

Q3. Create a Pandas DataFrame that contains the following data:

NAME	AGE	GENDER
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Alice	25	Female
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Bob	30	Male
-----	----	------

Claire	27	Male
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Then, print the DataFrame.

ANSWER =

```
import pandas as pd
data = [['Alice', 25, 'Female'], ['Bob', 30, 'Male'], ['clair', 27, 'Female']]
df = pd.DataFrame(data, columns=['Name', 'Age', 'gender'])
print(df)
```

Q4. What is 'DataFrame' in pandas and how is it different from pandas.series? Explain with an example.

ANSWER = A Pandas DataFrame is a 2 dimensional data structure, like a 2 dimensional array, or a table

with rows and columns.

The DataFrame actually consists of Index objects for row and column labels and Series objects for the column data.

```
import pandas as pd
fruits_jack = ["apples", "oranges", "bananas"]
fruits_john = ["guavas", "kiwis", "strawberries"]
index = ["a", "b", "c"]
all_fruits = {"Jack's": fruits_jack, "John's": fruits_john}

fruits_default_index = pd.DataFrame(all_fruits)
print("Dataframe with default indices:\n", fruits_default_index, "\n")

new_fruits = pd.DataFrame(all_fruits, index = index)
print("Dataframe with given indices:\n", new_fruits, "\n")
```

```
import pandas

data = {'a': 25, 'bb': 30, 'c': 50, 'za': 21, 2: 200}

fruit = pandas.Series(data)

print("Series:")
print(fruit)
```

Q5. What are some common functions you can use to manipulate data in a Pandas DataFrame? Can you give an example of when you might use one of these functions?

ANSWER =

1. read_csv()
2. head()
3. tail()
4. describe()
5. merge()
6. value_count()

```
import pandas as pd
df = pd.read_csv("series.csv")
```

Q6. Which of the following is mutable in nature Series, DataFrame, Panel?

ANSWER = series are value mutable.

Q7. Create a DataFrame using multiple Series. Explain with an example.

ANSWER =

```
import pandas as pd
author = ['Jitender', 'Purnima', 'Arpit', 'Jyoti']
article = [210, 211, 114, 178]
auth_series = pd.Series(author)
article_series = pd.Series(article)
frame = { 'Author': auth_series, 'Article': article_series }
result = pd.DataFrame(frame)
print(result)
```