

Q1.

```
In [1]: import pandas as pd
```

```
In [4]: data = [4,8,15,16,23,42]
series = pd.Series(data)
print(series)
```

```
0    4
1    8
2   15
3   16
4   23
5   42
dtype: int64
```

Q2.

```
In [5]: a = [1,2,3,4,5,6,7,8,9,10]
series = pd.Series(a)
print(series)
```

```
0    1
1    2
2    3
3    4
4    5
5    6
6    7
7    8
8    9
9   10
dtype: int64
```

Q3.

```
In [14]: data1 = {'Name' : ['Alice','Bob','Claire'],
                  'Age' : [25,30,27],
                  'Gender': ['Female','Male','Female']}
pd.DataFrame(data1,index=None)
```

```
Out[14]:
```

	Name	Age	Gender
0	Alice	25	Female
1	Bob	30	Male
2	Claire	27	Female

Q4.

""" A DataFrame is a two-dimensional, tabular data structure with labeled axes (rows and columns).

A Pandas Series, is a one-dimensional labeled array capable of holding any data type. """

In [15]: `import pandas as pd`

```
data = [1,2,3,4,5]
pd.Series(data)
```

Out[15]:

0	1
1	2
2	3
3	4
4	5

dtype: int64

In [18]: `df = pd.read_csv('services.csv')`

In [19]: `df.head(2)`

Out[19]:

	id	location_id	program_id	accepted_payments	alternate_name	application_process	audi
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0	1	1	NaN	NaN	NaN	Walk in or apply by phone.	(adults 55 or older, minors)
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1	2	2	NaN	NaN	NaN	Apply by phone for an appointment.	Resic o M Cc age !
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2 rows × 22 columns

Q5.

"""

- head() and tail()
- value_counts()
- groupby()
- sort_values()

"""

In [21]: `df.tail(1)`

Out[21]:

	id	location_id	program_id	accepted_payments	alternate_name	application_process	auc
	22	23	22	NaN	NaN	NaN	Walk in or apply by phone or mail

1 rows × 22 columns

In [22]: df['program_id'].value_counts()

Out[22]: Series([], Name: program_id, dtype: int64)

Q6.

""" In Pandas, both Series and DataFrame are mutable, while Panel is not. """

Q7.

In [24]: names = pd.Series(['Alice', 'Bob', 'Charlie'], name='Name')
ages = pd.Series([25, 30, 22], name='Age')
genders = pd.Series(['Female', 'Male', 'Male'], name='Gender')

df = pd.DataFrame({'Name': names, 'Age': ages, 'Gender': genders})
df

Out[24]:

	Name	Age	Gender
0	Alice	25	Female
1	Bob	30	Male
2	Charlie	22	Male