

Name:

Quiz 3 – 10/23/2024

Score

/ 10

Instructions. You have 15 minutes to complete this quiz. You may not use any outside materials. This quiz is closed computer, closed book, closed notes, and closed internet. No collaboration allowed.

The problems in this quiz are based on the two DataFrames below, `first` (on the left) and `second` (on the right).

	a	b	c	d
0	A	4	3	-2.1
1	C	-3	6	3.3
2	B	1	7	7.4
3	A	8	-2	5.6

	a	b	c	d
3	B	-2	9	4.7
2	C	7	8	8.3
1	B	4	3	0.1
0	A	5	5	4.5

Problem 1. What is the result of the code snippet below?

```
first['b'] * first['c']
```

A.

```
0    7
1    3
2    8
3    6
dtype: int64
```

B.

```
0    12
1   -18
2     7
3   -16
dtype: int64
```

C.

```
0     1
1    -9
2    -6
3     10
dtype: int64
```

D. None of the above.

Your answer:

Problem 2. What is the result of the code snippet below?

```
first['b'] + second['b']
```

A.

```
0    9
1    1
2    8
3    6
Name: b, dtype: int64
```

B.

```
0   -1
1   -7
2   -6
3    10
Name: b, dtype: int64
```

C.

```
0     2
1     4
2     5
3    13
Name: b, dtype: int64
```

D. None of the above.

Your answer:

Problem 3. What is the result of the code snippet below?

```
first.query('a not in ["B", "C"]')
```

Your answer:

A.

	a	b	c	d
1	C	-3	6	3.3
2	B	1	7	7.4

B.

	a	b	c	d
0	A	4	3	-2.1
3	A	8	-2	5.6

C.

	a	b	c	d
2	B	1	7	7.4

D. None of the above.

Problem 4. What is the result of the code snippet below?

```
second.query('c < 1')
```

Your answer:

A.

	a	b	c	d
3	B	-2	9	4.7
2	C	7	8	8.3
1	B	4	3	0.1
0	A	5	5	4.5

B.

	a	b	c	d
1	B	4	3	0.1

C.

	a	b	c	d
3	B	-2	9	4.7

D. None of the above.

Problem 5. Suppose you have a list called `desired` defined as follows:

```
desired = ["A", "C", "F"]
```

Using `.query()`, write valid code that keeps the rows of the DataFrame `second` whose value in the column `a` is in the list `desired`. You must refer to `desired` directly (that is, you may not write out the list `["A", "C", "F"]` in `.query()`).

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Problem 6. What is the result of the code snippet below?

```
first.sort_values(['a', 'c'])
```

Your answer:

A.

	a	b	c	d
0	A	4	3	-2.1
3	A	8	-2	5.6
2	B	1	7	7.4
1	C	-3	6	3.3

B.

	a	b	c	d
3	A	8	-2	5.6
0	A	4	3	-2.1
1	C	-3	6	3.3
2	B	1	7	7.4

C.

	a	b	c	d
3	A	8	-2	5.6
0	A	4	3	-2.1
2	B	1	7	7.4
1	C	-3	6	3.3

D. None of the above.

Problem 7. Write valid code that sorts the rows of the DataFrame second in descending order of the values in column b.

Problem 8. What is the result of the code snippet below?

```
second[['c', 'a']]
```

Your answer:

A.

	c	a
3	9	B
2	8	C
1	3	B
0	5	A

B.

	a	c
3	B	9
2	C	8
1	B	3
0	A	5

C.

	a	b	c	d
2	C	7	8	8.3
0	A	5	5	4.5

D. None of the above.

Problem 9. What is the result of the code snippet below?

```
first[['b', 'c', 'd']].sum(axis='rows')
```

A.

```
0    4.9
1    6.3
2   15.4
3   11.6
dtype: float64
```

B.

```
b    10.0
c    14.0
d    14.2
dtype: float64
```

C.

```
b    2.50
c    3.50
d    3.55
dtype: float64
```

D. None of the above.

Your answer:

Problem 10. What is the result of the code snippet below?

```
first.assign(
    c_minus_d=lambda x: x['c'] - x['d']
)
```

A.

	a	b	c	d	c_minus_d
0	A	4	3	-2.1	5.1
1	C	-3	6	3.3	2.7
2	B	1	7	7.4	-0.4
3	A	8	-2	5.6	-7.6

B.

```
0    5.1
1    2.7
2   -0.4
3   -7.6
dtype: float64
```

C.

	a	b	c	d	c_minus_d
3	B	-2	9	4.7	4.3
2	C	7	8	8.3	-0.3
1	B	4	3	0.1	2.9
0	A	5	5	4.5	0.5

D. None of the above.

Your answer: