DT 2025 - Quiz 6 - 21/5/2025 Python 2

The time for the quiz is 10 minutes

* Obbligatoria

* Questo modulo registrerà il tuo nome, inserire il nome.

1

LAST NAME and First Name *

2

Consider this Pandas DataFrame *df*. What is the number of rows of the DataFrame after running the following command:

df.drop_duplicates(inplace=True, subset='planet')

* (1.5 punti)

planet	value
Mars	1
Venus	37
Jupiter	0
Mars	2
Venus	38

- ◯ 5
- ◯ 37
- ◯ 3

3

What is the value of the variable *res* at the end of the execution of this code snippet?

* (1.5 punti)

```
df = pd.DataFrame({'id': [1,2,3,4,5],
                   'antigen': ['A', 'B', 'AB', '0', '0'],
                   'age': [26, 22, 42, 24, 30]})

res = df[df.antigen == '0'].age.mean()
```

- ◯ 0
- ◯ 4.5
- ◯ 27

4

A pandas dataframe *df* has three columns: '*Name*', '*City*', and '*Age*'. Which is the right expression to drop the column '*Age*'?

* (1.5 punti)

- ◯ df.drop('Age')
- ◯ df = df.drop(columns=['Age'])
- ◯ del 'age'

5

What is the Pandas equivalent of the following SQL query?

* (2 punti)

```sql
SELECT species, MAX(petal_width) AS petal_width
FROM iris
GROUP BY species;
```

- ◯ iris.species.groupby().max('petal_witdh)
- ◯ iris.max('petal_width').groupby('species')
- ◯ iris.groupby('species').petal_width.max()

6

Consider this definition of Pandas DataFrames. How many rows has the DataFrame defined by:

df1.merge(df2, on='key')

* (2 punti)

```
df1 = pd.DataFrame({'key': ['pizza', 'unicorn', 'banana', 'pizza'],
                    'value': [1, 2, 3, 5]})

df2 = pd.DataFrame({'key': ['robot', 'unicorn', 'banana', 'robot'],
                    'value': [5, 6, 7, 8]})
```

- ◯ 16
- ◯ 2
- ◯ 1

7

Suppose there is a Pandas DataFrame *df* with the following columns:
'*city*', '*country*', '*date*', '*measure*'

What is the correct way of counting the number of French cities reported in the DataFrame?

* (1.5 punti)

- ◯ df[df['country'] == 'France']['city'].nunique()
- ◯ df['France'].city.nunique()
- ◯ df[df['city'].isin('France')].nunique()

8

What is the value of the variable *output* at the end of the for loop?

* (1.5 punti)

```
output = 0

for i in range(1, 10):
  output = i
  if i % 5 == 0: break
```

- ◯ 10
- ◯ 5
- ◯ 0

9

Consider a Python dictionary *d*. Which of the following is True?

* (1.5 punti)

- ◯ len(d.items()) != 0
- ◯ len(d.keys()) != len(d.values())
- ◯ set(d.keys()) == d.keys()

10

The image shows the output of an API returning details about the **astronauts** currently in space. Based on the output, which of the following calculates the number of **spacecrafts** currently in space?

* (2 punti)

```
import requests
from datetime import datetime

r = requests.get(url='http://api.open-notify.org/astros.json')
res = r.json()
res
```

```
{'people': [{'craft': 'ISS', 'name': 'Oleg Kononenko'},
  {'craft': 'ISS', 'name': 'Nikolai Chub'},
  {'craft': 'ISS', 'name': 'Tracy Caldwell Dyson'},
  {'craft': 'ISS', 'name': 'Matthew Dominick'},
  {'craft': 'ISS', 'name': 'Michael Barratt'},
  {'craft': 'ISS', 'name': 'Jeanette Epps'},
  {'craft': 'ISS', 'name': 'Alexander Grebenkin'},
  {'craft': 'ISS', 'name': 'Butch Wilmore'},
  {'craft': 'ISS', 'name': 'Sunita Williams'},
  {'craft': 'Tiangong', 'name': 'Li Guangsu'},
  {'craft': 'Tiangong', 'name': 'Li Cong'},
  {'craft': 'Tiangong', 'name': 'Ye Guangfu'}],
 'number': 12,
 'message': 'success'}
```

- ◯ len(set([p['craft'] for p in res['people']]))
- ◯ res['number']
- ◯ len([p['name'] for p in res['people']])