

Powerful Data Structures and Python Extension Libraries quiz

TOTAL POINTS 14

1. Each key in the dictionary of Python is unique, but the value mapped by each key is not unique, subject to repetition.

1 point

☒ T

☐ F

2. Which of the following can NOT be a key in a dictionary?

1 point

☐ 'name'

☐ 1001

☐ tupleA = (123)

☒ listA = ['className']

3. Please decide whether the following statements are true or false.

1 point

The “set” in Python corresponds to the mathematical set of unordered and non-repetitive elements.

☒ T

☐ F

4. Please output the operational result of the following command: `sorted(set('You need Python.'))[2]`. (Directly write down the corresponding characters, without any symbol or mark like single quotes or double quotes)

1 point

p

5. Which of the following is the result of the code snippet below?

1 point

```
1 >>> dict_mark = {'Wang': 'C', 'Li': 'B', 'Ma': 'A'}
2 >>> s = ''
3 >>> for c in dict_mark.values():
4     s += c
```

- ☐ 'B'
- ☒ 'CBA'
- ☐ 'ABC'
- ☐ 'C'

6. Which of the following is the result of the code snippet below?

1 point

```
1 >>> dict_mark_1 = {'Wang': 98, 'Li': 87, 'Ma': 93}
2 >>> dict_mark_2 = {'Li': 90, 'Ma': 95, 'Xu': 75}
3 >>> dict_mark_1.update(dict_mark_2)
4 >>> dict_mark_1.pop('Li')
```

- ☐ 75
- ☒ 90
- ☐ 87
- ☐ It can not run.

7. Assign the JSON data below to a variable “color”, which of the following expression will have the result cold["cyan","blue"]?

1 point

```
1 color = {"color": [
2     { "warm": ["red", "orange", "yellow"] },
3     { "cold": ["cyan", "blue"] },
4     { "neutral": ["purple", "green", "black", "gray", "white"] }
5 ]
6 }
```

- ☐ color['color'][1][1]
- ☒ color['color'][1]['cold']
- ☐ color['color']['cold']
- ☐ color['color']['cold'][1]

8. Which of the following operational results of sets is NOT correct?

1 point

$a = \{1, 2, 3, 4\}$

$b = \{2, 3, 5, 6\}$

☐ `>>> a.difference(b) == a - b`

True

☐ `>>> a.union(b) == a | b`

True

☒ `>>> a.issubset(b)`

True

☐ `>>> a.intersection(b) == a & b`

True

9. Which of the following descriptions about the common extension libraries of Python is NOT correct?

1 point

☐ “dtype” is a special object, which contains the information to interpret “ndarray” to be a specific data type. “int64” represents a 64-digit integer with sign.

☐ “Series” of “pandas” can be regarded as a fixed-length orderly dictionary.

☐ “ndarray” in NumPy is an object of multidimensional array, which may be generated through sequence objects.

☒ “DataFrame” in “pandas” is a table data structure, containing an unordered sequence group. Each sequence can be of a different value type (numeric, string, Boolean value etc).

10. Please fill in the results of the following program.

1 point

```
1 >>> import numpy as np
2 >>> a = np.array([(1, 2, 3), (4, 5, 6), (7, 8, 9)])
3 >>> a[[2]].sum()
4 _____
```

11. Please fill in the following blanks with the correct answers (please separate the results with spaces).

1 point

```
1 >>> from pandas import Series
2 >>> sa = Series(['a', 'b', 'c'], index = [0, 1, 2])
3 >>> sb = Series(['a', 'b', 'c'])
4 >>> sc = Series(['a', 'c', 'b'])
5 >>> sa.equals(sc)
6 _____
7 >>> sb.equals(sa)
8 _____
```

Enter answer here

12. Please fill in the first blank with the answer.

1 point

```
1 >>> from pandas import Series, DataFrame
2 >>> data = {'language': ['Java', 'PHP', 'Python', 'R', 'C#'],
3           'year': [1995, 1995, 1991, 1993, 2000]}
4 >>> frame = DataFrame(data)
5 >>> frame['IDE'] = Series(['IntelliJ', 'Notepad', 'IPython', 'R studio',
6 >>> 'VS' in frame['IDE']
7 _____
8 >>> frame['year'][2]
```

Enter answer here

13. Please fill in the second blank in the previous question with the answer.

1 point

Enter answer here

14. There are 5 big names of a certain field: Tom, Jerry, Snoopy, Pooh and Luffy, whose ID are 88888, 5555555, 11111, 12341234 and 1212121, respectively. Please organize those data in dictionary. Program to achieve the following function:

1 point

After a user inputs the name of a big name, it outputs his/her ID.

Separate the results for two blanks with a semicolon.

```
1 def find_person(dict_users, strU):
2     if dict_users.__contains__(strU):
3         return dict_users[strU]
4     else:
5         return 'Not Found'
6
7 if __name__ == "__main__":
8     dict_users = {'Tom':88888,'Jerry':5555555,'Snoopy':11111,'Pooh':12341234,
9                  'Luffy':1212121}
10    strU = input('Please input the name: ')
11    print(find_person(dict_users, strU))
```

Input/Output :

```
1 >>>
2 Please input the name: Jerry
3 5555555
4 >>>
```

Enter answer here



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