

STEM 1402 Python Core II
Quiz 621

NAME:

DATE:

SCORE:

MODULE: 6. ADVANCED DATA TYPE

CHAPTER: 6-2 List (creation)

1. Does List in Python allow elements of different data types?

A) yes B) no

2. Does List in Python allow elements to be mutable?

A) yes B) no

3. Read the following code and choose your answer.

```
mylist = [[], []]
```

A) mylist is an empty list B) The length of mylist is 0
C) mylist is not an empty list D) The length of mylist is 3

4. How to get the single item 'a' in the following list?

```
mylist = ["mouse", [8, 4, 6], ['a']]
```

5. What error will be raised in this case?

```
mylist = ["mouse", [8, 4, 6], ['a']]  
print(mylist[3])
```

A) No error B) TypeError C) IndexError D) None of above

6. What error will be raised in this case?

```
mylist = ["mouse", [8, 4, 6], ['a']]  
print(mylist[1.5])
```

A) No error B) TypeError C) IndexError D) None of above

7. What is the result of the following code?

```
mylist = [[1,2,3],[4,5,6],[7,8,9],[10,11,12],[13,14,15]]  
print(mylist[1:3])  
print(mylist[1:3][0][0])  
print(mylist[0][1:3])
```

STEM 1402 Python Core II
Quiz 622**NAME:****DATE:****SCORE:****MODULE: 6. ADVANCED DATA TYPE****CHAPTER: 6-2 List (change items)**

1. Write code to change the original list to a new one as follows:

original: [1, 2, 3, 4, 5, 6]

new: [2, 2, 4, 4, 6, 6]

2. Write code to change the original list to a new one as follows:

original: [1, 2, 3, 4, 5, 6]

new: [1, 5, 4, 3, 2, 6]

3. Write code to change the original list to a new one as follows:

original: [1, 2, 3, 4, 5, 6]

new: [1, 9, 9, 6]

4. Write code to add the three items one by one at the tail of the given list?

original: [1, 2, 3, 4, 5, 6]

items to add: 7, 8, 9

5. Write code to add the three items at one time at the tail of the given list?

original: [1, 2, 3, 4, 5, 6]

items to add: 7, 8, 9

6. Write code to concatenate the following lists into one?

list 1: [1, 2, 3]

list 2: [4, 5, 6]

list 3: [7, 8, 9]

7. Write code to generate the following list in an easy way?

[1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2, 1, 2]

8. What is the result of the following code?

```
mylist = [1, 2] * 0  
print(mylist)
```

9. What is the result of the following code?

```
mylist = [1, 2] * -1  
print(mylist)
```

10. What is the result of the following code?

```
mylist = [1, 9, 8]  
mylist.insert(1, 0)  
print(mylist)
```

11. What is the result of the following code?

```
mylist = [1, 9, 8]  
mylist.insert(-1, 0)  
print(mylist)
```

12. What is the result of the following code?

```
mylist = [1, 9, 8]  
mylist.insert(1, [5, 6])  
print(mylist)
```

13. What is the result of the following code?

```
mylist = [1, 9, 8]  
mylist[1:1]=[4, 5, 6]  
print(mylist)
```

Your answer:

14. What is the result of the following code?

```
mylist = [1, 9, 8]  
mylist[1:1]=[]  
print(mylist)
```

STEM 1402 Python Core II
Quiz 623**NAME:****DATE:****SCORE:****MODULE: 6. ADVANCED DATA TYPE****CHAPTER: 6-2 List (Deleting items)****1. What is the result of the following code?**

```
my_list = ['p', 'y', 't', 'h', 'o', 'n']  
del my_list[1]  
print(my_list)
```

2. What is the result of the following code?

```
my_list = ['p', 'y', 't', 'h', 'o', 'n']  
del my_list[10]  
print(my_list)
```

3. What is the result of the following code?

```
my_list = ['p', 'y', 't', 'h', 'o', 'n']  
del my_list[-1]  
print(my_list)
```

4. What is the result of the following code?

```
my_list = ['p', 'y', 't', 'h', 'o', 'n']  
del my_list[1:4]  
print(my_list)
```

5. What is the result of the following code?

```
my_list = ['p', 'y', 't', 'h', 'o', 'n']  
del my_list  
print(my_list)
```

STEM 1402 Python Core II
Quiz 624**NAME:****DATE:****SCORE:****MODULE: 6. ADVANCED DATA TYPE****CHAPTER: 6-2 List (Deleting items)****1. What is the result of the following code?**

```
my_list = ['p', 'y', 't', 'h', 'o', 'n']  
my_list.remove('h')  
print(my_list)
```

2. What is the result of the following code?

```
my_list = ['p', 'y', 't', 'h', 'o', 'n']  
my_list.remove('h')  
my_list.remove('h')  
print(my_list)
```

3. Please write a program to remove all whitespace ' ' in a given string.**Hints:**

Users are allowed to input a string (or a sentence) at a time from a keyboard.

The remove() function is recommended.

Sample Input:

abc abc aaa

Sample Output:

['a', 'b', 'c', 'a', 'b', 'c', 'a', 'a', 'a']

4. What is the result of the following code?

```
my_list = ['p', 'y', 't', 'h', 'o', 'n']  
my_list.pop()  
print(my_list)
```

5. What is the result of the following code?

```
my_list = ['p', 'y', 't', 'h', 'o', 'n']  
a = my_list.pop(-1)  
print(my_list, a)
```

6. What is the result of the following code?

```
my_list = ['p', 'y', 't', 'h', 'o', 'n']
a = my_list.pop(10)
print(my_list, a)
```

7. Write a program to print out items of list from the last to the first.

Hints: Using pop()

Sample Input:

```
my_list = ['p', 'y', 't', 'h', 'o', 'n']
```

Sample output:

```
n o h t y p
```

8. How to clear all items from a list

```
my_list = ['p', 'y', 't', 'h', 'o', 'n']
my_list.clear()
print(my_list)
```

9. What is the result of the following code?

```
my_list = ['p', 'y', 't', 'h', 'o', 'n']
my_list[2:3] = []
my_list[2:5] = []
print(my_list)
```

10. Write a Python function remove_all_occurrences(mylist, element) that takes a list mylist and an element element as parameters. The function should remove all occurrences of element from mylist. After removing all occurrences of element, the function should return the modified list. You should also ensure that the original list order is preserved.

Input:

```
mylist = ['apple', 'banana', 'cherry', 'banana'], element = 'banana'
```

Output:

```
['apple', 'cherry']
```

Input:

```
mylist = [1, 2, 3, 4, 5], element = 6
```

Output:

```
[1, 2, 3, 4, 5] (Since 6 is not in the list, the list is returned unchanged.)
```

STEM 1402 Python Core II
Quiz 625**NAME:****DATE:****SCORE:****MODULE: 6. ADVANCED DATA TYPE****CHAPTER: 6-2 List (methods)**

1. Write a program to remove duplicates in a list.

```
my_list = ['p', 'y', 't', 'h', 'o', 'n', 'p', 'y', 't', 'h', 'o', 'n']
```

2. What is the result of the following code?

```
my_list = ['p', 'y', 't', 'h', 'o', 'n', 'p']  
res = my_list.index('p')  
print(res)
```

3. What is the result of the following code?

```
my_list = ['p', 'y', 't', 'h', 'o', 'n', 'p']  
res = my_list.index('p', 2)  
print(res)
```

4. What is the result of the following code?

```
my_list = ['p', 'y', 't', 'h', 'o', 'n', 'p']  
res = my_list.index('p', 2, 5)  
print(res)
```

5. Write a program to find all indices of target elements in a list.

```
my_list = [3, 8, 1, 6, 0, 8, 4, 8, 9, 8]
```

6. What is the result of the following code?

```
print([3, 8, 1, 6, 0, 8, 4, 8, 9, 8].count(8));
```

7. Write a program to count target elements (8) in a list.

```
my_list = [3, [8, 1, 6], [0, 8], [4, 8, 9, 8]]
```

8. Write a program to count target elements (8) in a list.

```
my_list = [[3], [8, 1, 6], [0, 8], [4, 8, 9, 8]]
```

9. Write a program to count target strings xyz in a list.

```
my_list = ['abc xyz', 'abb xyz', 'bab xxx', 'bbb yyz', 'cab xyz']
```

Constraints: without using string split()

10. Write a program to count target strings H3A in a list.

```
my_list = ['H3A 1B2', 'H3B 2A2', 'H3A 4C6', 'H3A 2X8', 'H4A 2D8']
```

Constraints: without using string split()

11. Write a program to count target strings aaa in a list.

```
my_list = ['aaa 1B2', 'H3B aaa', 'H3A aaa', 'aaa 2X8', 'H4A 2D8']
```

Constraints: without using string split()

12. Write code to sort the following postal code in ascending order

```
my_list = ['H3A 1B2', 'H3B 2A2', 'H3A 4C6', 'H3A 2X8', 'H4A 2D8']
```

13. Write code to sort the following student names by first name

```
my_list = [['Peter', 'Liu'], ['Linda', 'Wang'], ['Kevin', 'Ma'],  
['Cindy', 'Chen']]
```

14. Write code to sort the following student names by last name

```
my_list = [['Peter', 'Liu'], ['Linda', 'Wang'], ['Kevin', 'Ma'],  
['Cindy', 'Chen']]
```

15. Write code to sort the following student names by last name

```
my_list = ['Peter Liu', 'Linda Wang', 'Kevin Ma', 'Cindy Chen']
```

16. Write code to reverse the following list

```
my_list = [3, 8, 1, 6, 0, 8, 4, 8, 9, 8]
```


STEM 1402 Python Core II
Quiz 626**NAME:****DATE:****SCORE:****MODULE: 6. ADVANCED DATA TYPE****CHAPTER: 6-2 List (comprehension)**

1. List comprehension is an elegant and concise way to _____ a new list from an existing list in Python.

- | | | |
|-----------|------------|-----------|
| A) copy | B) clone | C) create |
| D) update | E) analyze | F) view |

2. Write the result of the following code snippet.

```
my_list = [x for x in range(6)]
```

3. Write the result of the following code snippet.

```
my_list = [x**2 for x in range(6)]
```

4. Write the result of the following code snippet.

```
my_list = [2**x for x in range(6)]
```

5. Write the result of the following code snippet.

```
my_list = [2 ** x for x in range(10) if x > 5]
```

6. Write the result of the following code snippet.

```
my_list = [x for x in range(20) if x % 2 == 1]
```

7. Write the result of the following code snippet.

```
my_list = [x+y for x in ['A','B'] for y in ['X','Y']]
```

8. Convert the following code with list comprehension

```
letters = []  
for letter in 'python':  
    letters.append(letter)
```

STEM 1402 Python Core II
Quiz 631**NAME:****DATE:****SCORE:****MODULE: 6. ADVANCED DATA TYPE****CHAPTER: 6-3 Tuple**

1. Tuple in Python is a mutable type and ordered sequence.

- A) True B) False

2. Which one(s) of the following is(are) to create an empty tuple.

- A) t1 = () B) t1 = new tuple() C) t1 = (None) D) t1= tuple()

3. Which one of the following is to create a tuple of only one element.

- A) t1 = 123 B) t1 = (123) C) t1= tuple(123) D) t1=(123,)

4. Write out the result of the following code snippet.

```
t1 = ("mouse", [8, 4, 6], (1, 2, 3))
t2 = ("mouse", (8, 4, 6), (1, 2, 3))
t3 = ("mouse", {8, 4, 6}, (1, 2, 3))
t4 = ("mouse", {8:88, 4:44, 6:66}, (1, 2, 3))
print(t1, type(t1))
print(t2, type(t1))
print(t3, type(t1))
print(t4, type(t1))
```

5. What is the data type of the following variable?

```
my_tuple = 1, 2.3, "athensoft"
```

- A) list B) tuple C) set D) dict E) None

6. What is the result of the following code snippet?

```
x, y, z = (1, 2.3, "athensoft")
print(x, y, z)
```

7. Write the result of the following code snippet

```
my_tuple = "hello",
print(type(my_tuple))
```