

QUIZ:- 05

Started on	Dienstag, 23 November 2021, 3:07
State	Finished
Completed on	Dienstag, 23 November 2021, 3:20
Time taken	13 mins 11 secs
Marks	8.00/8.00
Grade	4.00 out of 4.00 (100%)

Question 1

Complete

Mark 2.00 out of 2.00

🚩 Flag question

Consider the following programs for multiplying all elements of a list or numpy array and order them according to their speed of execution.

```
my_list = list(range(1000000))
```

```
def multiply_by_two_single(element):  
    return element * 2
```

```
def multiply_by_for_loop(my_list):  
    result = []  
    for i in range(len(my_list)):  
        result.append(multiply_by_two_single(my_list[i]))  
    return result
```

Slowest

```
%timeit multiply_by_for_loop(my_list)
```

```
import numpy as np
```

```
def multiply_by_two_numpy(my_np_array):  
    return my_np_array * 2
```

Fastest

```
my_np_array = np.array(my_list)  
%timeit multiply_by_two_numpy(my_np_array)
```

```
def multiply_by_two_list_comprehension(my_list):  
    return [x * 2 for x in my_list]
```

Second fastest

```
%timeit multiply_by_two_list_comprehension(my_list)
```

Question 2

Complete

Mark 2.00 out of 2.00

🚩 Flag question

Given the numpy array

```
import numpy as np  
a = np.array([1,2,3,7,10])
```

what is the output of the following indexing operation

```
a[a % 2 == 0]
```

Select one:

☒ array([2, 10])

☐ array([1, 10])

☐ array([3, 7])

Question **3**

Complete

Mark 2.00 out of 2.00

🚩 Flag question

Given the following numpy matrix

```
import numpy as np

x = np.array([[5, 6, 5, 8],
              [8, 0, 6, 6],
              [7, 0, 8, 2]])
```

which of the following indexing operations returns the matrix

```
array([[8, 0, 6, 6],
       [7, 0, 8, 2]])
```

Select one or more:

- ☐ x[-2:,2]
- ☒ x[1:,:]
- ☐ x[1,:]

Question **4**

Complete

Mark 2.00 out of 2.00

🚩 Flag question

Consider the following two numpy arrays

```
import numpy as np

a = np.array([1, 2, 3, 4, 5, 6, 7, 8, 9]).reshape((3,3))
b = np.array([0,2])
```

which of the following statements is true?

Select one or more:

- ☒ a.dot(b)
will fail.
- ☐ a.dot(b)
will return
array([4, 10, 16])

- ☐ a.dot(b)
will not fail, but when trying to access the first element of the result, a DivisionByZero error will be raised.