Linear algebra for AI & DS

First practical Quiz

For a vector v = [5 6 6 9 8 0 3 9 7 6 1 5 8], performing the below python command lines would give:

v = v[4:8]

d = v[1:] - v[:-1]

print(d)

a. [True False True]

b. [5 6 6 9 8 0 3 9 7 6 1 5 8]

c. [1 0 3 -1 -8 3 6 -2 -1 -5 4 3]

d. [-8 3 6]

e. No output

Your answer is incorrect.

The correct answer is:
[-8 3 6]

```
import numpy as np
v =np.array([5,6,6,9,8,0,3,9,7,6,1,5,8])
v=v[4:8]
d=v[1:]-v[:-1]
print(d)
```

```
[-8  3  6]
```

Given a vector v = [-1.1, 0.0, 3.6, -7.2], if the below python command lines were performed, the output would be:

w = v.copy()
w[3] = 9.0
v = w

a. [-1.1 0. 9. 3.6]

b. [-1.1 0. 3.6 9.]

c. [-1.1, 0.0, 3.6, -7.2]

d. [True, True, False, True]

e. [True, True, True, False]

Your answer is correct.

The correct answer is: [-1.1 0. 3.6 9.]

```
v = np.array([-1.1, 0.0, 3.6, -7.2])
w=v.copy()
w[3]=9.0
v=w
print(v)
```

```
[-1.1  0.   3.6  9. ]
```

Given a vector v = [5 6 6 9 8 0 3 9 7 6 1 5 8], in order to print the following output [8, 1, 7, 3, 8, 6, 5], the correct python command is:

a. v[:2:]
b. v[-3::]
c. v[::-2]
d. v[-1::]
e. v[::1]

Your answer is correct.

The correct answer is:
v[::-2]

```
v = np.array([5, 6, 6, 9, 8, 0, 3, 9, 7, 6, 1, 5, 8])
v[::-2]
```

```
array([8, 1, 7, 3, 8, 6, 5])
```

The index of the '0' element in v = [5, 6, 6, 9, 8, **0**, 3, 9, 7, 6, 1, 5, 8] is:

a. 0
b. 6
c. 4
d. -1
e. 5

Your answer is correct.

The correct answer is:
5

```
v=np.array([5, 6, 6, 9, 8, 0, 3, 9, 7, 6, 1, 5, 8])
v[0]
```

```
5
```

What is the result of the dot (inner) product of vector v = [5, 6, 6, 9, 8, 0, 3, 9, 7, 6, 1, 5, 8] with its reversed order?

a. 381
b. 133
c. 375
d. 507
e. 0

Your answer is incorrect.

The correct answer is: 381

```
v = np.array([5,6,6,9,8,0,3,9,7,6,1,5,8])
d = v[::-1]
print(v@d)
```

```
381
```