Week 3 Quiz

Multiple Choice

1/1 point (graded)

When working with cells in Jupyter, what does "_" refer to?

- [x] The output of the last cell executed. ✔
- [ ] A space in the line of code.
- [ ] A string character.

Answer

Correct: Video: "Jupyter: Getting Started"

Submit

True or False

1/1 point (graded)

Code in the Jupyter code cells are restricted to being one line.

- [ ] True
- [x] False ✔

Answer

Correct: Video: "Jupyter: Getting Started"

Submit

Multiple Choice

1/1 point (graded)
Using markdown cells in Jupyter, how do you format text as bold?

- (●) **word** ✔
- ( ) *word*
- ( ) ##word##
- ( ) #word#

Answer
Correct: Video: "Documenting Analysis with Markdown Text"

Submit

Checkboxes

1/1 point (graded)
What are the 3 reasons that data scientists working in Python use numpy all the time?

- [x] Its speed.
- [x] Its functionality.
- [x] Many packages rely on numpy.
- [ ] It enables text markup cells.

✔

Answer
Correct:
Video: "Why Numpy"
Video: "Why Numpy"
Video: "Why Numpy"
Video: "Why Numpy"

Submit

True or False

1/1 point (graded)

Elements in numpy arrays must be all the same type.

- (•) True ✔
- ( ) False

Answer

Correct: Video: "Why Numpy"

Submit

True or False

1/1 point (graded)

ndarrays are mutable.

- (•) True ✔
- ( ) False

Answer

Correct: Video: "Numpy: ndarrays Basics"

Submit

Multiple Choice

1/1 point (graded)

Look at the following code:

```
b = np.array([1,2,3])
b[1] = 'one'
```

What error prints out after you run these two lines of code?

- SyntaxError
- NameError
- KeyError
- ValueError ✔

Answer
Correct: Video: "Numpy: ndarrays Basics"

Submit

Multiple Choice

1/1 point (graded)
How do you create an Rank 1 array with numpy using the numbers 1, 2, 3?

- np.ndarray([1,2,3])
- np.array([1,2,3]) ✔
- np.array(1,2,3)
- np.ndarray(1,2,3)
- np.ndarray([[1,2,3],[3,2,1])
- np.array([[1,2,3],[3,2,1])

Answer
Correct: Video: "Numpy: ndarrays Basics"

Submit

Multiple Choice

1/1 point (graded)
There is a syntax error in the code below.

```
np.array( [11,12,13],[21,22,23] )
```

How would you fix it to create the intended 2x3 array?

- `np.array( [[11,12,13],[21,22,23]] )` ✔
- `np.array( [11,12,13,21,22,23] )`
- `np.array( [11,12,13],[21,22,23] )`
- `np.array[ [11,12,13,21,22,23] ]`

Answer
Correct: Video: "Numpy: ndarrays Basics"

Submit

Multiple Choice

1/1 point (graded)
How would you change the number 5 to 7 in this matrix?

```
arr = np.array([1,2,3,4,5])
```

- arr[0,5] = 7
- arr[4] = 7 ✔
- arr[5] = 7

- ○ arr[0,4] = 7

Answer
Correct: Video: "Numpy: ndarrays Basics"

Submit

Checkboxes

1/1 point (graded)
Given the code below:

```
arr = np.array([[1,2,3,4],[5,6,7,8],[9,10,11,12]])
```

Which of the following two commands below produce the same result?

- ☑ arr[0:1,1:3]
- ☐ arr[2,1:3]
- ☐ arr[1,1:3]
- ☑ arr[:1,1:3]

✔

Answer
Correct:
Video: "Numpy: ndarray Indexing"
Video: "Numpy: ndarray Indexing"
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Video: "Numpy: ndarray Indexing"

Submit

Multiple Choice

1/1 point (graded)
If you try to access rows of a 3-by-3 numpy array called “arr” using the command:

```
arr[:2,]
```

How many rows will be returned?

- [x] 2 ✔
- [ ] 3
- [ ] IndexError: index out of bounds

Answer
Correct: Video: "Numpy: ndarrays Indexing"

Submit

Multiple Choice

1/1 point (graded)
You are given the following lines of code:

```
arr = np.array([[1,2,3],[4,5,6],[7,8,9]])
slice = arr[:2,1:3]
slice[0,0]
```

What is the result of “slice[0,0]” in your last line of code?

- [ ] 1
- [x] 2 ✔
- [ ] 3
- [ ] 4

Answer
Correct: Video: "Numpy: ndarrays Indexing"

Submit

Multiple Choice

1/1 point (graded)
You are given the following lines of code:

```
arr = np.array([[1,2,3],[4,5,6],[7,8,9]])
slice = arr[:2,1:3]
slice[0,0]
```

What element in arr is equivalent to slice[0,0]?

- arr[0,0]
- arr[0,1] ✔
- arr[2,2]
- arr[0,2]

Answer
Correct: Video: "Numpy: ndarrays Indexing"

Submit

True or False

1/1 point (graded)
Changing an element of an array slice in numpy will NOT change the original array.

- True
- False ✔

Answer
Correct: Video: "Numpy: ndarrays Indexing"

Submit

Checkboxes

1/1 point (graded)
In what 3 ways can you quickly access numpy array elements?

- [x] Slicing
- [x] Using an array of indices
- [x] Boolean indexing
- [ ] Segmenting an array

✔

Answer
Correct:
Video: "Numpy: ndarray boolean Indexing"
Video: "Numpy: ndarray boolean Indexing"
Video: "Numpy: ndarray boolean Indexing"
Video: "Numpy: ndarray boolean Indexing"

Submit

Multiple Choice

1/1 point (graded)
What is the correct way to access elements of an array “arr” that are less than 0?

- ○ arr[<0]
- ◉ arr[arr<0] ✔
- ○ arr[arr[,]<0]

Answer
Correct: Video: "Numpy: ndarray boolean Indexing

Submit

Checkboxes

1/1 point (graded)

Select two valid ways to get the odd values of an array “arr.”

- [ ] arr[(arr % 2 != 1)]
- [x] arr[(arr % 2 != 0)]
- [x] arr[(arr % 2 == 1)]
- [ ] arr[(arr % 2 == 0)]

✔

Answer
Correct:
Video: "Numpy: ndarray boolean Indexing"
Video: "Numpy: ndarray boolean Indexing"
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Video: "Numpy: ndarray boolean Indexing"

Submit

Multiple Choice

1/1 point (graded)
What requirement is needed to add two numeric numpy arrays?

- (•) They need to have the same or compatible dimensions. ✔
- ( ) They need to be of the same type.
- ( ) They need to be converted to type float first.

Answer
Correct: Video: "Numpy: ndarray DataTypes and Operations"

Submit

Multiple Choice

1/1 point (graded)
What command allows you to sum all of the elements in an Rank 2 ndarray called “a”?

- (●) a.sum() ✔
- ( ) sum(a)
- ( ) A+a
- ( ) a.add()

Answer
Correct: Video: "Numpy: Statistical, Sorting, and Set Operations"

Submit

Multiple Choice

1/1 point (graded)
What is the result of the following lines of code?

```
a=np.array(["cat","dog","fish"])
b=np.array(["dog","fish","rabbit"])
print(np.setdiff1d(a,b))
```

- (●) ['cat'] ✔
- ( ) ['rabbit']
- ( ) ['dog' 'fish']
- ( ) ['cat' 'dog' 'fish' 'rabbit']

Answer
Correct: Video: "Numpy: Statistical, Sorting, and Set Operations"

Submit

Multiple Choice

1/1 point (graded)

What is the output of the following broadcasting call?

```
A = np.array([[1],[2]])
B = np.array([[1,2],[3,4]])
A + B
```

- array([[2, 3], [5, 6]]) ✔
- array([[2, 4], [4, 6]])
- array([[1, 2], [3, 4],[1,2]])
- Value Error

Answer

Correct: Video: "Numpy: Broadcasting"

Submit

True or False

1/1 point (graded)

Take a look at the following lines of code:

```
a = np.array([2, 3])
b1 = np.array([1])
b2 = 1
```

True or False: a+b1 and a+b2 result in the same ndarray.

- True ✔
- False

Answer

Correct: Video: "Numpy: Broadcasting"

Submit

Checkboxes

1/1 point (graded)
Which of the following are benefits of ndarrays over lists? Select 3.

- [x] Ndarrays are more space efficient.
- [x] Ndarrays are more optimized for memory.
- [x] Ndarrays often have faster computation.
- [ ] Ndarrays have more variable types than lists.

✔

Answer
Correct:
Video: "Numpy: Speed Test ndarray vs list"
Video: "Numpy: Speed Test ndarray vs list"
Video: "Numpy: Speed Test ndarray vs list"
Video: "Numpy: Speed Test ndarray vs list"

Submit

Multiple Choice

1/1 point (graded)
In an RGB images, which three values specifying a pixel's color correspond to the color white?

- (•) 255, 255, 255 ✔
- ( ) 0, 0, 0
- ( ) 100, 100, 100
- ( ) 255, 0, 255

Answer
Correct: Video: "Satellite Image Example"

Submit

Multiple Choice

1/1 point (graded)

Which layer of the 3 layer matrix of colors corresponds to the color blue when working with images in Numpy?

- ○ Layer 0
- ○ Layer 1
- ◉ Layer 2 ✔

Answer

Correct: Video: "Satellite Image Example"

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