Assignment 2

May 21, 2020

(Feel free to refer to the AI Intern Day 4 Jupyter notebook if you get stuck.)

0.1 Classes:

Create a class in Python to represent fractions. The internal representation contains two integers (the numerator and denominator).

The functions in the class should include: * multiplication (a/b * c/d) * print the fraction (in the form a/b) (hint: use ___str___ function) * invert the fraction (a/b becomes b/a)

Example usage of this class: frac = Fraction(3, 4) # Fraction 3/4

frac2 = Fraction(4, 3) # Fraction 4/3

frac.multiply(frac2)

print(frac)

frac.invert()

[ ]:
```
# Create Class here
```

0.2 Numpy:

[ ]:
```
# Get a list of integers as input from the user and convert it into a numpy␣
↪array.
```

[ ]:
```
# Create an array of ones (all elements in the array is one) of shape (4, 5)␣
↪[three rows and 5 columns].
```

[ ]:
```
'''
Given the following array,

X = [[2, 5]
    [1, 5],
    [0, 7]]

Write numpy slicing code to get the following as output:
```

```
1. [2, 1, 0]
2. [1, 5]
3. 7
4. [2, 7, 0]  (hint, use a list of indices)

'''
```

[ ]:
```
# Create a numpy array and print its shape, dimensions, size and datatype
```

[ ]:
```
# Create a copy of a numpy array using .copy(), change the copy's value and␣
↪print both arrays
```

[ ]:
```
# Create a numpy array of size 15 and print all possible reshaping.
```

[ ]:
```
# Create a random array of shape (3, 4) and find the maximum in it
# hint : np.random.randint(0, 100, size=(3, 4))
```

[ ]:
```
# Sort the following array:
# x = np.array([2, 1, 4, 3, 5])
```

[ ]:
```
# find the maximum element in each column of the folling array
# a = np.array([[1,2,4,7], [9,88,6,45], [9,76,3,4]])
```

[ ]:
```
# find the index of the maximum element in each column in the folling array
# a = np.array([[1,2,4,7], [9,88,6,45], [9,76,3,4]])
```

[ ]:
```
# Try adding an array of shape (3,4) and another array of shape (3,1)
```

[ ]:
```
# Try adding an array of shape (5,) and (,5)
```

[ ]:
```
# Try adding two arrays of shape (3,3) and (2,2) each
```

0.2.1 That's it folks