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Returning Multiple Values in Python

In Python, we can return multiple values from a function. Following are different ways

1) Using Object: This is similar to C/C++ and Java, we can create a class (in C, struct) to hold multiple values and return an object of the class.

```python
# A Python program to to return multiple
# values from a method using class
class Test:
    def __init__(self):
        self.str = "geeksforgeeks"
        self.x = 20

# This function returns an object of Test
def fun():
    return Test()

# Driver code to test above method
t = fun()
print(t.str)
print(t.x)
```

Output:

```
geeksforgeeks
20
```

Below are interesting methods for somebody shifting C++/Java world.

2) Using Tuple: A Tuple is a comma separated sequence of items. It is created with or without (). Tuples are immutable. See this for details of tuple and list.

```python
# A Python program to to return multiple
# values from a method using tuple

# This function returns a tuple
def fun():
    str = "geeksforgeeks"
    x    = 20
    return str, x;   # Return tuple, we could also
                     # write (str, x)

# Driver code to test above method
str, x = fun() # Assign returned tuple
print(str)
print(x)
```

Output:

```
 geeksforgeeks
 20
```

3) Using a list: A list is like an array of items created using square brackets. They are different from arrays as they can contain items of different types. Lists are different from tuples as they mutable.

```python
# A Python program to to return multiple
# values from a method using list

# This function returns a list
def fun():
    str = "geeksforgeeks"
    x = 20
    return [str, x];

# Driver code to test above method
list = fun()
print(list)
```

Output:

```
 ['geeksforgeeks', 20]
```

4) Using a Dictionary: A Dictionary is similar to hash or map in other languages. See this for details of dictionary.

```python
# A Python program to to return multiple
# values from a method using dictionary

# This function returns a dictionary
def fun():
    d = dict();
    d['str'] = "GeeksforGeeks"
    d['x']   = 20
    return d

# Driver code to test above method
d = fun()
print(d)
```

Output:

```
{'x': 20, 'str': 'GeeksforGeeks'}
```

Reference:

http://stackoverflow.com/questions/354883/how-do-you-return-multiple-values-in-python

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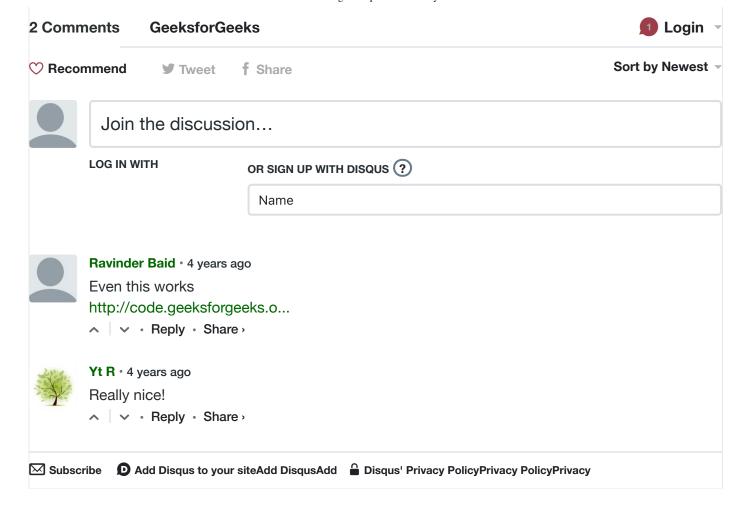Python | sympy.ones() method

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