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Class or Static Variables in Python

Class or static variables are shared by all objects. Instance or non-static variables are different for different objects (every object has a copy of it).

For example, let a Computer Science Student be represented by class **CSStudent**. The class may have a static variable whose value is "cse" for all objects. And class may also have non-static members like **name** and **roll**.

In C++ and Java, we can use static keyword to make a variable as class variable. The variables which don't have preceding static keyword are instance variables. See this for Java example and this for C++ example.

The **Python** approach is simple, it doesn't require a static keyword. *All variables which are assigned a value in class declaration are class variables. And variables which are assigned values inside class methods are instance variables.*

```python
# Python program to show that the variables with a value
# assigned in class declaration, are class variables

# Class for Computer Science Student
class CSStudent:
    stream = 'cse'              # Class Variable
    def __init__(self,name,roll):
        self.name = name        # Instance Variable
        self.roll = roll        # Instance Variable

# Objects of CSStudent class
a = CSStudent('Geek', 1)
b = CSStudent('Nerd', 2)

print(a.stream)  # prints "cse"
print(b.stream)  # prints "cse"
print(a.name)    # prints "Geek"
print(b.name)    # prints "Nerd"
print(a.roll)    # prints "1"
print(b.roll)    # prints "2"

# Class variables can be accessed using class
# name also
print(CSStudent.stream) # prints "cse"
```
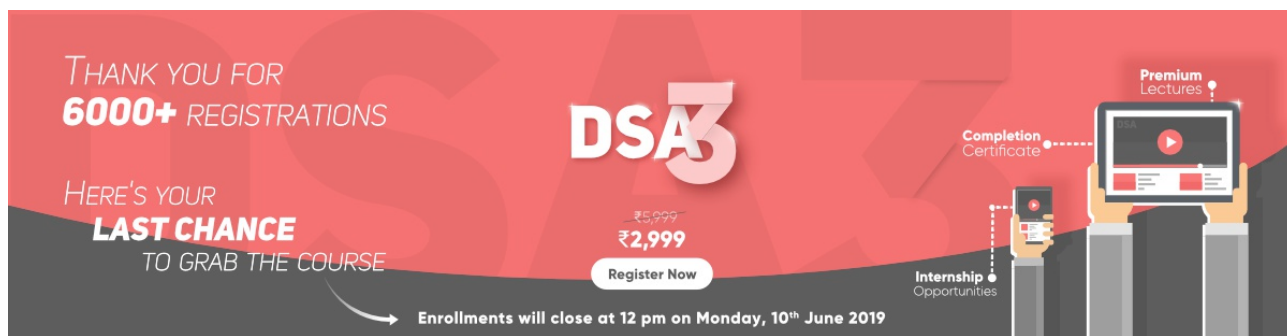
Output:

```
cse
cse
Geek
Nerd
1
2
cse
```

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