

## 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 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"
```

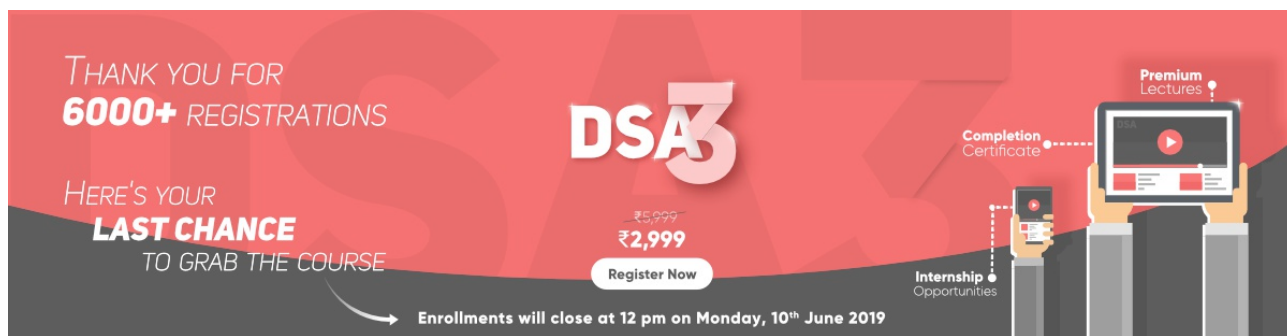
Output:

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

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4

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