Class Methods and Static Methods

- Normally methods will impicitly pass the object on which it is called.
- For class methods, instead of self, cls is called refeering to the class

```
1   #CLasss method example
2
3   class HouseAtHogwarts:
4
5       selectionmethod = None
6       def __init__(self,name,emblem):
7           self.name = name
8           self.emblem = emblem
9           self.head = None
10
11
12      def getTeacher(self):
13          return 'Professor ' + self.head.upper()
14
15      @classmethod
16      def setSelectionMethod(cls,selectionmethod):
17          cls.selectionmethod = selectionmethod
18
19
20  #Create instances
21  house1 = HouseAtHogwarts('Gryffindor','Lion')
22  house2 = HouseAtHogwarts('Slytherin', 'Snake')
23
24  #set the selection method variable via the class method
25  HouseAtHogwarts.setSelectionMethod('The Sorting Hat')
26
27  #Accessing the selection method from the class or any object will show the updated value
28  print (HouseAtHogwarts.selectionmethod)
29  print(house1.selectionmethod)
30  print(house2.selectionmethod)
31
32  OUTPUT
33  The Sorting Hat
34  The Sorting Hat
35  The Sorting Hat
```

- Static methods do not pass anything
- With staticmethods, neither self (the object instance) nor cls (the class) is implicitly passed as the first argument. They behave like plain functions except that you can call them from an instance or the class:

```python
#OOP Code

class HouseAtHogwarts:

    selectionmethod = None
    def __init__(self,name,emblem):
        self.name = name
        self.emblem = emblem
        self.head = None


    def getTeacher(self):
        return 'Professor ' + self.head.upper()

    @classmethod
    def setSelectionMethod(cls,selectionmethod):
        cls.selectionmethod = selectionmethod

    @staticmethod
    def staticMethod():
        return 'House Selection Begins'


#Create instances
house1 = HouseAtHogwarts('Gryffindor','Lion')
house2 = HouseAtHogwarts('Slytherin', 'Snake')

print(HouseAtHogwarts.staticMethod())
print (house1.staticMethod())
print (house2.staticMethod())


OUTPUT
House Selection Begins
House Selection Begins
House Selection Begins
```