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```
percipio31_static_methods.py x
1  # percipio31_static_methods.py
2  # Percipio video: Classes; Static Methods
3  # Demoonstration of static methods
4  # static methods are similar to regular functions and do not use 'self'
5  # Static methods do not have the benefits of normal instance methods (by being able to refer to the
6  # attributes of either the instance or the class, or class methods allowing the same thing)
7  # Static methods allow calling a function with either an instance or the class itself but provide no
8  # parameter in which, in that method you're able to refer to either the instance, like 'self', or the class,
9  # like 'cls' in class methods.
10 # Benefit of static methods is having these functions defined within that class's namespace
11 nl = '\n'
12 import locale # module used to print out information specifically formatted with currancies in the local
13 locale (local location?)
14 # The locale module can be set to many things, currency, date, time, etc. or set to ALL as in this file
15 import sys # module used to print out information specifically formatted with currancies in the local
16 locale (local location?)
17 #
18 class Base(): # created class
19     trim = 'normal' #
20     engine_liters = 1.5 #
21     miles_range = 450 #
22     tank_capacity = 45 #
23     color = 'white' #
24     transmission = 'automatic' #
25 #
26 # Two differnt ways to implementing a static method. In each way, the staticMethod is a wrapper around
27 the function
28 # 1) decorator
29 # 2) use the defination of the function with the function name equaling the staticmethod with the function
30 name as argument
31 @staticmethod # 1) decorator method
32 def miles_per_liter(miles_range, tank_capacity):
33     return miles_range / tank_capacity
34
35 def miles_per_gallon(miles_range, tank_capacity):
36     return Base.miles_per_liter(miles_range, tank_capacity) * 3.78541 # class itself has to be
37     referred to in order to call the method, miles_per_liter
38 miles_per_gallon = staticmethod(miles_per_gallon) # 2) function name = staticmethod(function name)
39
40 def __init__(self, price, transmission='automatic', color='white'): # special init method (which is an
41 instance method) that gets called when the class instance gets created
42     self.price = price #
43     self.transmission = transmission #
44     self.color = color #
45 #
46 def info(self): # info method (normal instance method) referring to the instance (self)
47     if sys.platform.startswith('win'): # uses the sys module as a helper as 'sys.platform' returns a
48 string which represents the current OS platform
```





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```
36 #
37 def info(self): # info method (normal instance method) referring to the instance (self)
38     if sys.platform.startswith('win'): # uses the sys module as a helper as 'sys.platform' returns a
39         # string which represnets the current OS platform
40         locale.setlocale(locale.LC_ALL, 'us') # on Windows platform sets the locale one way (because
41         # locale for Windows works unique to other platforms)
42     else: #
43         locale.setlocale(locale.LC_ALL, 'en_US.utf8') # on a non-Windows platform, sets the locale
44         # another way
45     print('The price of %s was %s.' % # 1st Result line; prints out the price,...
46         (self, locale.currency(self.price))) # using the locale-currency
47 #
48 def __str__(self): #
49     return 'a %s base model with %s transmission' % (self.color, self.transmission) # 1st Result line
50 #
51 coop = Base(color='green', transmission='automatic', price=25000) # Creating a new instance of the class
52 coop.info() # instance method 'coop', and info method
53 print('The %s gets %4.1f miles per gallon' % (coop, coop.miles_per_gallon(coop.miles_range,
54     coop.tank_capacity))) # printing with the instance
55 print('The %s gets %4.1f miles per gallon' % (Base, Base.miles_per_gallon(Base.miles_range,
56     Base.tank_capacity))) # printing with the class itself
57 #
58 class Sport(Base):# Sport_Model which inherits all of the methods and some of the attributes from the Base
59     # Represent a sport model of a car based on the Base class
60     engine_liters = 2.0
61     miles_range = 400
62 #
63 sport = Sport(color='red', transmission='manual', price=26300) # create an instance of Sport_Model
64 sport.info() #
65 print('The %s gets %4.1f miles per gallon' % (sport, sport.miles_per_gallon(sport.miles_range,
66     sport.tank_capacity))) # 4th Result line;
67 print('The %s gets %4.1f miles per gallon' % (Sport, Sport.miles_per_gallon(Sport.miles_range,
68     Sport.tank_capacity))) # 5th Result line;
69 #
70 ...
71 RESULT:
72 The price of a green base model with automatic transmission was $25000.00.
73 The a green base model with automatic transmission gets 37.9 miles per gallon
74 The <class '__main__.Base'> gets 37.9 miles per gallon
75 The price of a red base model with manual transmission was $26300.00.
76 The a red base model with manual transmission gets 33.6 miles per gallon
77 The <class '__main__.Sport'> gets 33.6 miles per gallon
78 ...
```

