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*# Exercise #*

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*# 1 #*

*# Create a class that represents a car with a name, number of seats, current speed, production number and engine which*

*# is characterized by its horsepower and miles per gallon.*

*# The car should have a method of accelerating with an input of -1.0 to 1.0 that takes the engines horse-power into*

*# account (units, wind resistance etc. are irrelevant) and a method that formats its characteristics name, car-type,*

*# production number and horse power as a string.*

*# 2 #*

*# Additionally, there should be a convertible specialization of car that has means to move its roof up and down.*

*# There should be a print if the roof actually changes position.*

*# 3 #*

*# Start out with creating a Prius with 5 seats and an engine with 121hp / 53MPG as well as a Porsche Boxster*

*# convertible with two seats, 265hp and 32MPG.*

*# Lower the roof of the Boxster and start racing the Prius with 20% acceleration each for the first one to hit a speed*

*# of 200 (call acceleration method multiple times). Print the speeds of both cars after each acceleration step*

*# 4 #*

*# Create a parking lot with methods to park and remove a car. The spots should be enumerated*

*# and the lot should maintain a directory which car is parked on which spot.*

*# If someone tries to park a car when the lot is at full capacity an error should be raised.*

*# 5 #*

*# Create a lot of size three and two more cars. Try to park all of the cars in the lot. Remove one when the lot is*

*# already at full capacity when trying to park a new car.*

*# Finally, print the directory of the lot.*