

# Data Structure: MotorVehicle

Consider the following definition for a data structure called *MotorVehicle*:

```
# A MotorVehicle is a model, year, color, and price
```

```
data MotorVehicle:  
  | vehicle(  model :: String,  
              year  :: Number,  
              color :: String,  
              price :: Number )  
end
```

To make instances of this structure, I would write:

\_\_\_\_\_ = \_\_\_\_\_

\_\_\_\_\_ = \_\_\_\_\_

Choose one of your above instances, and note which dot-accessors you would use to access each of its fields:

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Which of the following are functions that *could* be written based on the data definition for **MotorVehicle**? Check all that apply

- ```
# same-license : MotorVehicle, String -> Boolean
# Consumes a MotorVehicle and String, produces true if the
# given MotorVehicle's license plate is the same as the
# given String
```
  
- ```
# how-old : MotorVehicle, Number -> Number
# consumes a MotorVehicle and a year. Produces the age of
# the vehicle by subtracting its year from the given year.
```
  
- ```
# more-expensive : MotorVehicle, MotorVehicle -> Boolean
# consumes two MotorVehicle and produces true if the first
# MotorVehicle is more expensive than the second
```
  
- ```
# is-under-warranty : MotorVehicle -> Boolean
# Consumes a MotorVehicle, produces true if the given
# MotorVehicle has a mileage of less than 100,000 miles
```
  
- ```
# paint-job : MotorVehicle -> MotorVehicle
# Consumes a MotorVehicle and produces a MotorVehicle which
# is the same as the given MotorVehicle, but painted red
```