Lab 05 – JavaScript Arrays and Objects

1   Introduction

In this recitation you will create car objects based on strings containing information about them. Normally these strings would be provided from a database query, but in this exercise, we will hard code those strings. A car object has the following features:

- Brand (such as Ford, Nissan, etc.)
- Price
- Engine:
  - Horse Power (such as 47 horses)
  - Cc (such as 2000cc)
  - Number of Gears (normally 6)

Note: the engine here is an object inside the car object (Very similar to what we discussed on TV jack inputs and outputs).

2   HTML File

Nothing unusual here, just create an HTML file that runs a main_driver() script in the body. The main_driver() script is defined in a separate javascript file, so don't forget to place a link in the HTML head section.

3   JavaScript File

Your JavaScript shall have the following components:

function createCar(carInfo)
> This function creates a car object based on the carInfo input. The carInfo input is a single string containing the following information "brand, price, engine horse power, engine number of gears, engine cc".
> Inside this function you shall split the original string into pieces, create an engine object, and then create a car object. The car object shall also have a variable associated with a printInfo() function. This variable will be used to display the car info when using a console.log() method later. This function shall return the newly created car object.

`function displayInfo()`
> A function that will print the car object features, including its engine, in the console. An example of a printout is should below:

```
====  Car Info  ===="
Brand: Ford
Price: $30000
Engine Features: Horse Power: 45 HP, Gears: 6, cc: 2000cc
```

`function createEngine(horsePower, gears, cc)`
> A function that creates an engine based on the inputs horsepower, gears, and cc. This function shall return the newly created engine (to be used when constructing a car object.

function createInventory()

In this function:

    a) create an array of car info Strings. The Strings are given below

        `"Ford, 33000, 35, 6, 2000",`

        `"Toyota, 23000, 40, 6, 2100",`

        `"Mitsubishi, 44000, 45, 6, 2200",`

        `"Nissan, 21000, 37, 6, 2300",`

        `"GM, 25000, 39, 6, 2400",`

        `"VW, 42000, 25, 6, 2500",`

    b) Loop over this array and create car objects. While creating these car objects, place then in another list, listOfCars.

    c) This method shall return the listOfCars

function printInventory(listOfCars)

This function loops over the listOfCars and print their information by using the variable associated with a printInfo() function.

```
function main() {
    let listOfCars = createInventory();
    printInventory(listOfCars);
}
```