Lesson 8 – Intro to JavaScript – Variables and Operators

Welcome to JavaScript – the programming language of the internet. Check out the following videos before our next class. This should be a review of previous lessons from Python – many topics are the same with some minor differences in Syntax.

https://www.youtube.com/watch?v=upDLs1sn7g4 – What is JavaScript?
https://www.youtube.com/watch?v=pZQeBJsGoDQ – JavaScript variables.
Two of the main differences between JavaScript and Python: Variables must be declared, and statements must be terminated with a ;
https://www.youtube.com/watch?v=4UwdF2Ia8rY – JavaScript Operators
https://www.youtube.com/watch?v=Jb33AmWDmrg – Displaying results with JavaScript

Practice Exercises

1. NL Chocolate Company pays salespeople expenses when they go on business trips. Input will include the salesperson name, the location of the trip, the number of days for the trip, and the number of kilometers travelled. Calculate the per diem amount using a rate of $56.00 per day for food and accidentals. The lodging amount is calculated at $125.00 per night. Finally, the mileage amount is calculated at .24 cents per kilometer. The total claim is all three values added together. Taxes (HST) is calculated t 15% on the per diem and lodging amounts only. The Claim total is the total claim plus the taxes. Display all input values and calculated values to the screen for the user.

Formatting Numbers using the Intl.NumberFormat

The Intl.NumberFormat object is a constructor for objects that enable language-sensitive number formatting. It simply means that with Intl.NumberFormat, JavaScript can construct an object that will have the ability to style (or to be technically correct, format) numbers based on human languages. In other words, numbers can be styled in a more human-understandable format.

Instead of numbers being presented as bland as 1234 or 4561254, numbers can be better presented as 1,234 or $4,561.254. You get the gist? Good!

Create a constant for each number format. I have included the code for Currency, Percent and Decimal. These have been set up for 2 decimal places, others can be created with 1 or 0 if you wish.

```
const cur2Format = new Intl.NumberFormat("en-CA", {
  style: "currency",
  currency: "CAD",
  minimumFractionDigits: "2",
  maximumFractionDigits: "2",
});

const per2Format = new Intl.NumberFormat("en-CA", {
  style: "percent",
  minimumFractionDigits: "2",
  maximumFractionDigits: "2",
});
```

```
const com2Format = new Intl.NumberFormat("en-CA", {
  style: "decimal",
  minimumFractionDigits: "2",
  maximumFractionDigits: "2",
});
```

Now you can print numbers with the proper format, rather than the raw number. To print a value, use the following examples.

```
document.write(“Item cost:                    “ + cur2Format.format(ItemCost) + "<br />");
document.write(“Commission rate:              “ + perFormat.format(CommissionRate) + "<br />");
document.write(“Population:                   “ + comFormat.format(Population) ) + "<br />");
```

Now when you create the scripts for the following examples, format the numeric values appropriately.

2. Computer Liquidations wants to gather data on new inventory items they bring into their store. Input the item name, the item cost (the amount the company paid for the item), and the number in stock. Calculate the retail price (the amount on the sales tag) by adding a markup of 75% to the item cost. The total inventory at cost is the item cost multiplied by the number on hand, and the total inventory at retail is the retail cost multiplied by the number in stock. The difference between these two values is the gross margin. Finally, determine the sales price of the item with 10% off, 25% off, 33% off, and 50% off – Note that this is the cost after the discount. Display all input values and calculated values to the screen for the user.

3. Design a program to be used by The Gym to bill their members. Set up a constant for the membership cost and the sales tax rate, and the cancellation fee. The user will input from the keyboard the membership number, member name, street address, phone number, and the number of family members on the membership.

   Calculate the membership cost using $125 for the first member and $75.00 for each additional member. HST is calculated at 15% on the membership cost. The total membership cost is the membership cost plus the HST. If the member cancels their membership at any time, the cancellation fee is 60% of the membership cost for 3 months.

   Display all input values and calculated values to the screen.

See you at 3.