Lesson 10 – Intro to JavaScript – Strings, Dates and Arrays

Manipulating strings and dates are a requirement in any language. Many options should be familiar to you from our work in Python, just the syntax is going to be a bit different. Take a look at the following videos before our next class.

https://www.youtube.com/watch?v=wssvLtVSFeI – String methods
https://www.linkedin.com/pulse/mastering-javascript-string-methods-laurence-svekis-/ String method exercises

https://www.youtube.com/watch?v=LwYwz67l1lA – Date methods
https://www.w3resource.com/javascript-exercises/javascript-date-exercises.php - Date method exercises

https://www.youtube.com/watch?v=TDV-fBdIn1I – Basic arrays and array methods
https://medium.com/@francesco.saviano87/mastering-javascript-arrays-10-progressive-exercises-b88e23d1b787 - Array exercises

Practice Exercises

- Input a customer's title, first name and last name. Prepare code to create the following name combinations:

  Mr. John Doe J. Doe Mr. J. Doe Doe, John Doe, J.

- Input a department name for an employee. Have the first letter of each word capitalized, and all remaining letters lowercase.

- Input the current date (yyyy-mm-dd), a customer first and last name, a location code – 4 letters like AJRD, a transit code – 5 numbers like 14974, and a customer counter – between 1000 and 9999. Create a tracking # that appears as follows: XX-XX-XX-XXXXXXXX where the first two X's are the customer initials, the second set are the first two letters in the location code, the third set are the last two digits in the transit code, and the last 8 X's are the four-digit year, and the customer counter.

- Travel claims for a company require a start date and an end date. Make sure the end date is greater than the start date. Determine the number of days for the claim and calculate the total claim as the number of days multiplied by a per diem of $56.00.

- Input the date of a sales invoice (YYYY-MM-DD) and the amount of the invoice (float). The terms offered to your customers are 2 / 10 N 30 – 2% off if paid in 10 days, with the balance due in 30 days. Display the original amount of the invoice, the discount date, the amount due with the discount, the due date for this invoice, and the current age of the invoice (current date – invoice date). Display results in labels with appropriate format.

- Write a program for a real estate agent to record information on home listings. Include the Listing number (9-digit number), street address, number of bedrooms, number of bathrooms, total square footage, the listing price and the date – note that a home can have multiple prices

– so store the date and price for each. Finally enter the status – must be one of Open, Offer Pending, or Sold.

- Billy Bob is a number and sorting enthusiast; he loves to play with numbers all day long. We are going to write a program to help Billy Bob in his number endeavors. We want to write a program that takes in a series of numbers, one after the other, until we input the number -1. Once we enter the number -1 into the program, the program will stop accepting inputs. At this point, the program should print all the numbers we have entered so far in the order that we entered them. It will then take all the number, sort them, and print the numbers to the screen in sorted order. Also determine and find the total of all the numbers, the average of all the numbers, the maximum value, the minimum value, and a list of duplicate values in the list. Display each with an appropriate heading. This will no doubt save Billy Bob many hours per day of manually sorting using pen and paper.

- Write a program that allows the user to enter a customer order for tech services with multiple items. The invoice number will start at 10367 and the invoice date is the current system date.

  Start by entering the customer's name and phone number. Now allow the user to enter multiple items on the order including the item description, item price, and the quantity purchased. Calculate the subtotal as the item price by the quantity. Continue to add items until the user enters an ending value for the item desc. Add each item and the associated fields to lists for further processing.

  Once all items have been entered, enter the payment method (Must be Cash, Debit, Visa, or Mastercard. Validate that one of these values are entered using a list.

  Print the invoice to appear as follows:

```
          1         2         3         4         5         6
12345678901234567890123456789012345678901234567890123456789012

Tech Services Inc.                                  Invoice No:       #####
Customer Invoice                                    Invoice Date: dd-Mon-yy

Customer:  XXXXXXXXXXXXXXXXXXXX  (XXX) XXX-XXXX

Item Description          Item Price    Quantity Purchased     Subtotal
-------------------------------------------------------------------------------
XXXXXXXXXXXXXXXXXXXX      $###.##            ##              $#,###.##
                                :
XXXXXXXXXXXXXXXXXXXX      $###.##            ##              $#,###.##
-------------------------------------------------------------------------------
Total services ordered: ##                                    $##,###.##

Payment Method: XXXXXXXXXX                    Payment Due: dd-Mon-yy
```

  The Payment Due is calculated based on 20 days or the first day of the next month, whichever is later. Calculate both and compare the dates to find which is further in the future.