Lesson 2.03: Lists

# Learning Objectives

* Define and identify: index, list, items, len
* Describe information in the form of a list
* Create Lists
* Recall SNAP Lists
* Access data from lists

# Materials/Preparation

* Lab handout
* Read through the handout so that you are familiar with the requirements and can assist students

# Pacing Guide

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| Duration | Description |
| *Day 1* |  |
| 5 Minutes | Welcome, attendance, bell work, announcements |
| 10 Minutes | Lecture |
| 20 Minutes | Group Activity |
| 15 Minutes | Lab |
| *Day 2* |  |
| 5 Minutes | Welcome, attendance, bell work, announcements |
| 10 Minutes | Review of concepts |
| 30 Minutes | Lab Wrap Up |
| 10 Minutes | Review |

# Instructor’s Notes

1. Lecture
   1. Lists as a way to store data
      1. Example of lists as colors in the rainbow. Each color is an item in the list. Red is the first item, Orange is the second.
   2. List Creation
      1. Show the syntax for creating a list: [ , ]
         1. Create some practice lists
      2. Show how to store a list in a variable and print the list
   3. List Accessing & Length Function
      1. If you wanted only the first color of the rainbow you would say rainbow\_list[0]
      2. What if you wanted the last element?
         1. Len will give you how long the list is. Practice on the rainbow
2. *Group Activity*
   1. *Line Students up in a list of 4 (for each season). Each Student has a piece of paper with different numbers hidden on it negative to positive. If students index they win copy of the prize only if it’s positive, and if they update they update the value of the prize by 50 and win whichever*
   2. *Indexing: Have students go to their birth month index and writes down a copy of that number*
   3. *Updating: Have volunteer student go to their birth month, the list value that corresponds to that can add numbers to their piece of paper*
3. Lab
   1. Creating a which pet should you get quiz program with 5 questions. Start off with 6 separate lists, 5 list representing the answer options and one list used to tally up the results. If user selects from the 0-index answer that tallies as a point for pet which corresponds to that pet. correspond to the same quiz result, all column represents a type of pet in the quiz. Return the percentages
4. Discussion
   1. Talk about questions or issues students had
   2. What if you wanted to have between 1 and length of list (subtract 1 from the input value)

* What’s going on under the surface of a list