Lab 7 Hashing
UWYO COSC 2030

1 Lab: Hashing

This lab will give you a chance to develop your own hashing function. The purpose of a good hashing function is to minimize collisions (no two objects hash to the same thing) and to do the hashing efficiently. Hash tables follow a Key, Value format. Your hash is the key and whatever you hashed is the value. You use a hash table to know where your value is located based on the hash. In this case the hash will give you something like the array index of where your item is stored, so you won't have to iterate through the array to find it. From the first link below:

```
Hashing is implemented in two steps:

An element is converted into an integer by using a hash function. This element can be used
as an index to store the original element, which falls into the hash table.

The element is stored in the hash table where it can be quickly retrieved using hashed key.

hash = hashfunc(key)
index = hash % array_size
```

- https://www.hackerearth.com/practice/data-structures/hash-tables/basics-of-hash-tables/tutorial/
- https://en.wikipedia.org/wiki/Hash_table

2 Lab: Assignment

Link: https://classroom.github.com/a/JDrIrYeN

Improve the hasher function however you wish, try to be creative with how you are doing so. Once you have crafted your hash function run it several times, try to get collisions to see how well you did.

3 Turn in on Github. Make sure you include a readme with your name and lab section.

Written by Danny Radosevich, Edited by Russell Todd for UWYO COSC 2030