## Overview

In this lab you will implement a hash table. Call your class SimpleHashTable. You are to use a String array of 10 elements to store values. Keys will be integers.

Implement the following methods:

| /\*\*  \* Adds value to array using key  \*/  public void put (int key, String value) {  }  /\*\*  \* Gets value from array using key  \*/  public String get (int key) {  }  /\*\*  \* Prints a list of values stored in array with array index  \*/  public string toString() {  }  /\*\*  \* Hash using midsquare algorithm returns calculated array index  \*/  public static int hash(int key, int size, int r) {  } |
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You are to use the midsquare hash algorithm, for size 10, r=2 (as discussed in class slides) to put and get keys.

Examples for midsquare with size = 10, r =2

276 -> 276 x 276 =76176

17 % 10 = 7

hash(276, 10, 2) returns 7

42 -> 42 x 42 = 1764

76 % 10 = 6

hash(42, 10, 2) returns 6

This is a simple hashtable as you can assume that all keys will map to a unique index.

See Gradescope for correct output.