

## CSC 201 Data Structures

Professor Burg

Fall 2020

### Programming Assignment 3

#### Grading Sheet

Due Wednesday, October 28 at 11:59 PM

**75 points for program**  
**point values given in parentheses**

\_\_\_\_\_ submitted on time

\_\_\_\_\_ program formatted in a consistent and readable style (2)

\_\_\_\_\_ comments done as instructed (3)

\_\_\_\_\_ HashTable, RGB, and Freq classes are created, each containing the methods that logical should be the responsibility of those classes. Methods that are never used for this program don't need to be created (5)

\_\_\_\_\_ main method -- basic parts (10)

- file names and pixel dimensions come in from the outside, either through command-line arguments or through prompts allowing the user to set the arguments
- HashTable object created
- pixels are read in
- each pixel color instance is sent to the hash table to be inserted

\_\_\_\_\_ when all pixels have been inserted, *main* makes a call to a hash table method that prints out the data requested in the assignment

\_\_\_\_\_ all information is printed out and seems reasonable (15)

\_\_\_\_\_ the output is formatted in a readable style, as instructed (5)

\_\_\_\_\_ insertions are done correctly according to the assigned collision resolution method (20)

\_\_\_\_\_ when all insertions are done, the colors in the image are sorted by frequency, and the 256 most frequent colors are printed, with the RGB value of each color and its frequency (15)

**25 points for the writeup**

\_\_\_\_\_ all test cases are run and have reasonable output (12)

\_\_\_\_\_ the writeup gives a thoughtful analysis of the results (13)