University of Nevada, Reno

CS 302 — Data Structures

Assignment 1

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2 Use of Code

3 Functions

3.1 Image.h

CONSTRUCTOR

Purpose
default constructor allocates no memory and sets the size to zero

Input
None

Output
None

Assumptions
Sets everything to zero and sets the pixelValue array to NULL

CONSTRUCTOR WITH PARAMETERS

Purpose
change the dimenstions of the image, delete, and re-allocate memory if required

Input
An N, M, and Q value to set the new image to

Output
None

Assumptions
Sets the image to a certain size and intializes the image as a grid

DESCTRUCTOR

Purpose
Deletes and memory that has been dynamically allocated

Input
None

Output
None

Assumptions
Checks to see if the pixelValue array has been set if so, deletes

COPY_CONSTRUCTOR

Purpose

Creates a new array absed on the thing to be copied then sets the pixelValue of the new object the same as the old image

Input

ImageType rhs is the old image to be copied over into the new array

Output

None

Assumptions

The old image must be passed as reference to prevent an infinate loop

OPERATOR=

Purpose

equal operator overload, this is basically the same as the copy constructor except it will likely have to de-allocate memory before copying values, all this is decided in setImage-Info however

Input

imageType rhs which is the old iamge to be copied over to the new image

Output

Returns the imageType obejct so that equal chaining can be implemented

Assumptions

Assumes that the user is not trying to copy the same object into itself

GETIMAGEINFO

Purpose

returns the width height and color depth to reference variables

Input

- rows
  This parameter grabs the number of rows in the imageType object
- cols
  This parameter grabs the number of cols in the imageType object
- levels
  This paremeter grabs the depth of the image in the imageType object

Output

None

Assumptions

Assumes nothing but it makes sense that the object being queried has been loaded with some image

GETPIXELVAL

Purpose

Returns the value of a pixel

Input

- i
  The row of the pixel
- j
  The column of the pixel

Output

The integer value of the pixel at pixelValue[i][j]

Assumptions

It is assumed that the image has been intialized

setPixelVal

Purpose

Input

Output

Assumptions

getSubImage

Purpose

Input

Output

Assumptions

meanGray

Purpose

Input

Output

Assumptions

enlargeImage

Purpose

Input

Output

Assumptions

shrinkImage

Purpose

Input

Output

Assumptions

reflectImage

Purpose

Input

Output

Assumptions

translateImage

Purpose

Input

Output

Assumptions

rotateImage

Purpose

Input

Output

Assumptions

operator+

Purpose

Input

Output

Assumptions

operator-

Purpose

Input

Output

Assumptions

negateImage

3.2 driver.cpp

showMenu

Purpose

Input

Output

Assumptions

SHOWREGS

- Purpose
- Input
- Output
- Assumptions

DRAWWINDOW

- Purpose
- Input
- Output
- Assumptions

DELETEMENU

- Purpose
- Input
- Output
- Assumptions

DELETEWINDOW

- Purpose
- Input
- Output
- Assumptions

PROCESS ENTRY

- Purpose
- Input
- Output
- Assumptions

STDWINDOW

- Purpose
- Input
- Output
- Assumptions

PROMPTFORREG

Purpose

Input

Output

Assumptions

PROMPTFORFILENAME

Purpose

Input

Output

Assumptions

PROMPTFORLOC

Purpose

Input

Output

Assumptions

PROMPTFORPIXVALUE

Purpose

Input

Output

Assumptions

PROMPTFORSCALEVALUE

Purpose

Input

Output

Assumptions

PROMPTFORMIRROW

Purpose

Input

Output

Assumptions

PROMPTFORANGLE

Purpose

Input

Output

Assumptions

MESSAGEBOX

Purpose

Input

Output

Assumptions

FILLREGS

Purpose

Input

Output

Assumptions

CLEARREGISTERS

Purpose

Input

Output

Assumptions

LAODIMAGE

Purpose

Input

Output

Assumptions

SAVEIMAGE

Purpose

Input

Output

Assumptions

GETIMAGE

Purpose

Input

Output

Assumptions

SETPIXEL

- Purpose
- Input
- Output
- Assumptions

GETPIXEL

- Purpose
- Input
- Output
- Assumptions

EXTRACTSUB

- Purpose
- Input
- Output
- Assumptions

ENLARGEIMG

- Purpose
- Input
- Output
- Assumptions

SHRINKIMG

- Purpose
- Input
- Output
- Assumptions

REFLECTIMG

- Purpose
- Input
- Output
- Assumptions

TRANSLATEIMG

- Purpose

Input

Output

Assumptions

ROTATEIMG

Purpose

Input

Output

Assumptions

SUMIMG

Purpose

Input

Output

Assumptions

SUBTRACTIMG

Purpose

Input

Output

Assumptions

NEGATEIMG

Purpose

Input

Output

Assumptions

FINDLOCALPGM

Purpose

Input

Output

Assumptions

3.3 cubicspline.h

CONSTRUCTOR

Purpose

Input

Output

Assumptions

COPY CONSTRUCTOR

Purpose

Input

Output

Assumptions

CONSTRUCTOR WITH PARAMETERS

Purpose

Input

Output

Assumptions

DESTRUCTOR

Purpose

Input

Output

Assumptions

CREATE

Purpose

Input

Output

Assumptions

CREATECUBIC

Purpose

Input

Output

Assumptions

GETVAL

Purpose

Input

Output

Assumptions

GETCUBICVAL

Purpose

Input

Output

Assumptions

3.4 imageIO.h

READIMAGEHEADER

Purpose

Input

Output

Assumptions

READIMAGE

Purpose

Input

Output

Assumptions

WRITEIMAGE

Purpose

Input

Output

Assumptions

3.5 comp_curses.h

STARTCURSES

Purpose

Input

Output

Assumptions

ENDCURSES

- Purpose
- Input
- Output
- Assumptions

SETCOLOR

- Purpose
- Input
- Output
- Assumptions

SCREENWIDTH

- Purpose
- Input
- Output
- Assumptions

SCREENHEIGTH

- Purpose
- Input
- Output
- Assumptions

PROMPTFORINT

- Purpose
- Input
- Output
- Assumptions

PROMPTFORDOUBLE

- Purpose
- Input
- Output
- Assumptions

PROMPTFORSTRING

- Purpose
- Input
- Output
- Assumptions

4 Bugs and Errors

hmm what goes here

5 What was Learned

lol

6 Division of Labor

ok!