**Design Document**

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**main()**

**Data**: Choice number (int), current number image (char array), image file (file pointer)

**Functionality**:

* Selects a case, based on the number the user inputs
* If user selects new image choice, program prompts the user to insert the file name (string)
* If user selects crop choice, program prompts user to insert pixels to crop from left, right, top, and bottom

***menu()***

**Input Parameters**: None

**Returned Output**: choice (int)

**Functionality**:

* Displays the menu
* Prompts the user to insert a number corresponding to a choice, then scans that option
* Loops if input is invalid

**getImage()**

**Input Parameters**: number image array, size of array, image file, pointer for number of rows

**Returned Output**: number of columns

**Functionality**:

* Scans from user-selected file and stores numbers into array
* For each value scanned in a row, value for the number of rows is incremented
* For each “enter”, number of columns is incremented

**cropImage()**

**Input Parameters**: number image array, left pixels, right pixels, top pixels, bottom pixels, image file, pointer for number of rows

**Returned Output**: number of columns

**Functionality**:

* Subtract left and right pixels from row amount for new row number
* Subtract top and bottom pixels from column amount for new column number
* Loops through array
* Store value from array[row-left pixel] [column-top pixel] into array (starting from [0][0])
* Loop until index reaches new row and column size

**dimImage()**

**Input Parameters**: Number image array, number of rows, number of columns

**Returned Output**: None

**Functionality**:

* Loops through entire array
  + Subtracts 1 to each value
  + Stores the new value in the array

**brightenImage()**

**Input Parameters**: Number image array, number of rows, number of columns

**Returned Output**: None

**Functionality**:

* Loops through entire array
  + Adds 1 to each value
  + Stores the new value in the array

**displayImage()**

**Input Parameters**: Number image array, size of row, size of columns

**Returned Output**: None

**Functionality**:

* Takes values from number image and “translates” into corresponding light value in new array
* Displays new array

**saveImage()**

**Input Parameters**: “translated” image array

**Returned Output**: None

**Functionality**:

* Asks user if they would like to save image
* If user says yes, prompts user for file name to save image to
* Prints image in new file then closes the file