Name: Islam Osama Nwishy

ID#: 900170200

Assignment 6 (Bonus)

Design Document

1. **App.cpp**
   * **GetInput ():** takes in the input from a given .pgm file, creates a 2D arraywith the rows and columns size specified in the file, and copies the data in the file into the array.
   * **Median\_Filter ():** takes in a 2D array that represents a picture with salt and pepper noise and filters that noise creating a new image
   * **ZeroPad ():** fills a given array (B) with 0 and copies the data stored in the 2D array representing the original picture (A) into that first array (B)
   * **GetRegion ():** stores a square of size SxS where S is the size of the filter, then stores that square in a 1D array (V)
   * **heapSort ():** builds a heap from a 1D and sorts it out using the function ***heapify ()***
   * **Heapify ():** sorts a given heap