# Queue Program

This program will implement a ten element queue of integers. There will be two modes that it can run; one to follow the commands in an input file, and one to respond to user-entered commands.

# The Input File

This file consists of a list of commands in this format:

ENQUEUE 12

DEQUEUE

PEEK

PRINT

END

The END command ends the input file.

# Required Function: Enqueue

This function takes the queue, and an integer as arguments. It places the value at the back of the queue and returns 0 for success, and -1 for failure (queue overflow.)

# Required Function: Dequeue

This function takes the queue as its argument. It removes the front value from the queue and returns it. It should return a -1 when it fails (Queue underflow.)

# Required Function: Peek

This function takes the queue as an argument. It returns the front value but does not remove it. It should return a -1 when it fails (queue empty.)

# Required Function: Print

This function takes the queue as an argument. It prints the queue to the screen or an error message if the queue is empty. (void function)

# Notes

Push, Pop, and Peek must have NO output apart from the return value. (NO couts)

The program needs to display an error message when a function returns an error code.

The program must check for the successful opening of all files it uses.

The program must be well-commented.

The program must be printed out and turned in with this paper attached. (OTHER SIDE UP)

Program Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| Criteria | Points Possible | Points Earned |
| Reads the file correctly | 5 |  |
| Interprets commands correctly | 10 |  |
| Error checks file opening correctly | 5 |  |
| Gives user the option to enter values or read file | 10 |  |
| Loops when completed to ask if user wants to go again | 5 |  |
| Enqueue works | 15 |  |
| Dequeue works | 15 |  |
| Peek works | 15 |  |
| Print works | 10 |  |
| Handles errors from these functions | 5 |  |
| Commented | 5 |  |
| Late | -5 points per day late |  |
| Total: | 100 |  |