

ASSIGNMENT SIX

ABSTRACT DATA TYPES

CS2263, Fall 2021

LEARNING OUTCOMES

An interactive program that tests Stack and Queue ADT modules.

YOUR TASKS

Both portions of this assignment will use the following data structure:

```
typedef struct pt2link {  
    Point2D* payload;  
    Struct pt2link* next;  
}PtLink, *pPtLink
```

STACK

Create a stack ADT module to manage Point2D data. The module should handle stack creation, push, pop, peek, reporting the stack contents and stack destruction. You should use your current Point2D module wherever possible. Test your module by implementing it with the `playStack.c` program.

QUEUE

Create a queue ADT module to manage Point2D data. The module should handle queue creation, enqueueing, dequeueing, peek (look at the next value to be dequeued), reporting the queue contents and queue destruction. You should use your current Point2D module wherever possible. Test your module by implementing it with the `playQueue.c` program.

NOTE

Listing the stack/queue contents should include reporting the addresses of the `PtLink`, as well as the addresses of `payload` and `next`.

SUBMISSION

Before the due date for this assignment, students should submit a single zip or tar file (named *LastName_FirstName_A3.zip* or *LastName_FirstName_A3.tar*) online to the lms containing:

- A pdf with screenshots showing successful compiling and testing output. Your source code directory:
 - This should include all of your source files, including test programs and makefile.
 - This should not include object (.o) files and executables. Nobody needs to see those.