Coding Assignment 7

For this assignment, I am providing multiple files in Canvas. Download all of them and understand what each one is for before starting on the assignment.

`Movie Theater Seat Map Files.zip` – contains the eight movie theater seat map files.

`Command Line Files.zip` – contains the file of theaters and their zip codes for the BST and the file of customers for the queue. These are the data input files required by the program on the command line.

`Libraries.zip` – contains 10 files – 5 .c files and 5.h files for the libraries this assignment uses. They are Movie Theater, linked list, queue, stack and Binary Search Tree (BST) libraries.

`Code7_outline.c` – the code outline that you are start with for this assignment. Rename this file to `Code7_xxxxxxxxxx.c` where `xxxxxxxxxx` is your student id.

Make sure that you understand what each file is for once you have read through this entire assignment. All of the files should be in the directory where you are compiling/running your code.

You should use `Code7_outline.c` to start this assignment. Expand your `makefile` as needed to compile/link the movie theater, linked list, stack, queue and BST libraries. You should be able to compile `Code7_outline.c` as is once you create the proper `makefile`. It will run but won't do anything, but it will compile. Make sure it does before making any changes.

You will be required to use the functions as defined in the provided library files. You must not alter these library files. Your versions will not be used for testing; therefore, if you alter them to make your code work, your code will fail when graded. You can alter `Code7_outline.c` as you want but your version must call the library functions with the same name, parameters and return types in order to remain compatible with the libraries. The only files you will submit are the `makefile` and the `Code7_xxxxxxxxxx.c` file.

Your code will be tested by compiling it with the original libraries and will be tested with other data files (more/fewer customers, more/fewer movie theaters, and different theater seat maps).

This assignment has several purposes

  1. Use linked list, queue, stack and BST functions.

  2. Build new code using given constraints

  3. Practice reading and understanding existing code and how to use it without altering it

All of these skills will be needed to be successful on the upcoming FEQs.

Command Line Parameters

A `get_command_line_parameter()` function is in the provided outline which means this code will allow you to run the program like this…

`./Code7_xxxxxxxxxx.e QUEUE=queue.txt ZIPFILE=zip.txt RECEIPTNUMBER=1`

This allows us to run the program with the parameters in any order. Here's a description of each parameter. Do not alter this function – GTA testing will involve running the program with the parameters in different orders to verify that this function is in place and that you are not hardcoding the queue file as `argv[1]` for example.

`RECEIPTNUMBER=`

  The starting value of this run's receipt numbers. Treat this value as a number.

`QUEUE=`

  Name of file containing a list of customer names. The file containing the list of customers is the `queue.txt` file in the "`Command Line Files.zip`". The example file is

```
            Bugs Bunny

            Daffy Duck

            Tweety

            Elmer Fudd

            Marvin the Martian

            Sylvester
```

ZIPFIFLE=

Name of the file containing the name of the theater (max 40 characters), its zip code (max 5 characters), the name of the file containing the theater's seat map (max 100 characters) and the dimensions of the seat map. Make no assumptions about the format of the file name – use the name as-is – don't add or subtract anything – use it as shown in the file. This file will consist of one line of X's and O's (letter O).

```
AMC The Parks At Arlington 18|76015|file1.txt|10x9
AMC Dine-In Clearfork 8|76109|file2.txt|11x5
AMC EastChase 9|76120|file13.txt|10x10
AMC Palace 9|76102|myfile.it|5x4
Studio Movie Grill|76011|cat.dog|4x10
Movie Tavern at Green Oaks|76017|abc.def|6x7
Studio Movie Grill Arlington|76018|xxxx.zzz|9x9
```

Sample `myfile.it`

```
        OOOOOOOOOOOOOOOOOOOOOO
```

Sample `cat.dog`

```
        OOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO
```

The file containing the list of movie theaters is the `zip.txt` file in the "`Command Line Files.zip`". The files listed inside the `zip.txt` file (`file1.txt`, `file2.txt`, `cat.dog`, etc…) are in the "`Movie Theater Seat Map Files.zip`" on Canvas.

Queue

Read in a file of names (`QUEUE=`). The file consists of a list of customer names. For example

```
Bugs Bunny
Daffy Duck
Tweety
Elmer Fudd
Marvin the Martian
Sylvester
```

Put the customer names in a queue. Each node of the queue will contain a `char` array of size 30 to hold the customer's name. Please note that the customer name may contain spaces (use `fgets`). If the file open fails, print a message and exit.

Binary Search Tree

Use the data from `ZIPFILE=` to create a binary search tree. Use the zip code as the value used to create the tree. Each node of the binary search tree will contain the name of the theater, the zip code, the name of the file containing the theater's seat map and the dimensions of the seat map. If the file open fails, print a message and exit.

Stack

Each time a customer is served (buys tickets), a receipt is created and added to a stack. A receipt (stack node) will contain the receipt number and a **linked list** head that points to the linked list containing each seat sold per customer. Seats will be inserted in order in the linked list so that when the receipts are printed, the seats print in order. If a customer buys C3, A1 and E7, then the linked list of seats in the stack node will be in A1, C3, E7 order. The receipt number should start with the value passed on the command line and be incremented each time a receipt is created. One receipt per customer.

Linked List

Each stack node (customer receipt) will contain a linked list head that will point to the linked list of tickets that customer purchased. A library function has been provided (`ReturnAndFreeLinkedListNode()`) that will print the tickets one at a time and will free each node of the linked list as it returns the ticket from the linked list. After all tickets have printed/been freed, the stack node can be popped/freed.

Process

Process the command line arguments.

Create a generic 2D array of size 26x20 which will be used to hold any of the seat maps. We will only use rows A-Z and seats 1-20. This will ensure we can display the seat map on the screen.

Read the `QUEUE=` file and create the queue of customers.

Read the `ZIPFILE=` and create the binary search tree.

Print the menu

```
1.    Sell tickets to next customer

2.    See who's in line

3.    See the seat map for a given theater

4.    Print today's receipts
```

Be sure to validate the choice from the menu.

Your program should stop running/gracefully complete when the line is empty. There is no option to quit before your job of selling tickets is complete.

Sell tickets to next customer

Dequeue the head of the queue. Print the customer's name and display the list of theater names and zip codes from the binary search tree (BST). Prompt the customer to enter the zip code of the theater from which they wish to purchase tickets. Using the zip code, search the BST for that zip code. Once found, extract the name of the file containing the seat map and the dimensions of the theater. Open the file containing the seat map and read it into the 2D array using the dimensions found in the BST node. If the data in the file exceeds the dimensions allowed by that particular theater, then display a message about an invalid seat map and prompt the customer to pick a different theater.

Display the seat map and prompt for how many tickets they would like to purchase. For each ticket, prompt the customer to pick a seat. Translate the input seat choice to a row-column pair. Validate that the row,column is inside the bounds of the theater. If the seat is invalid, then tell the customer, redisplay the seat map and prompt for a new choice for seat. Once the

customer has entered a valid seat, check if the seat has been sold. If it has been sold, then inform the customer and prompt for a new seat choice. Revalidate the seat choice before checking if it is available. Customer should be able to select multiple invalid seats and sold seats but should still be able to buy the desired number of tickets.

After completing a sale to a customer, write the seat map back out to the file from which you read it. This will allow you to keep track of sold seats between customers. Create a receipt for the customer on the stack. The linked list of tickets should be formed as tickets are sold (you **cannot** store the sold tickets in an array and then write them to the stack node's linked list).

See who's in line

This option should traverse the queue and print each customer's name in order from head to tail to show who's in line.

See the seat map for a given theater

When this option is chosen, display the list of theater names and zip codes and allow the input of a zipcode. Find that zip code in the BST, read the file containing the seat map into your generic array and display it. This functionality should mostly be a reuse of the code from selling tickets.

Print today's receipts

When this option is chosen, the contents of the stack should be displayed by popping each node from the stack and displaying its contents. Once the receipts have been displayed, the stack should be have completely emptied and a rerun should state that today's receipts have already been displayed. The receipt number should be displayed along with the tickets that were sold on that receipt. The tickets should have been stored in the linked list in the stack node in order; therefore, they should print in order when the receipts are displayed.

Testing

Your code will be tested two ways.

1.   A file of my choice will be used for the customer list and the theater zip list. Your program will need to use both of those files correctly – sell tickets and display the line of customers and print the day's receipts.

2.   The GTA's will compile your Code7.c file with MY versions of MovieTheater.c/.h, LinkLib.c/h, BSTLib.c/h, QueueLib.c/h and StackLib.c/h. You should not force your Code7.c to work by changing something in these files. You can change what you want in the Code7_outline.c file as long as your changes still work with the provided files.

Miscellaneous

1.   The linked list head, queue head, queue tail, binary search tree root and stack head are declared in `main()` and passed as needed to other functions. No globals allowed.

```
./Code7_1000074079.e QUEUE=queue.txt ZIPFILE=zip.txt RECEIPTNUMBER=123



1.      Sell tickets to next customer


2.      See who's in line


3.      See the seat map for a given theater
```

4.   Print today's receipts

Choice : 2

Customer Queue

Bugs Bunny
Daffy Duck
Tweety
Elmer Fudd
Marvin the Martian
Sylvester

1.   Sell tickets to next customer

2.   See who's in line

3.   See the seat map for a given theater

4.   Print today's receipts

Choice : 1

Hello Bugs Bunny

Pick a theater by entering the zipcode

Studio Movie Grill   76011
AMC The Parks At Arlington 18   76015

```
Movie Tavern at Green Oaks              76017

Studio Movie Grill Arlington            76018

Rave                                    76053

AMC Palace 9                            76102

AMC Dine-In Clearfork 8                 76109

AMC EastChase 9                         76120


Enter zip 76015



        Seat1   Seat2   Seat3   Seat4   Seat5   Seat6   Seat7   Seat8   Seat9

Row A   X       X       X       O       X       O       O       O       O

Row B   O       O       O       O       O       O       O       O       O

Row C   O       O       O       O       O       O       O       O       O

Row D   O       O       O       O       O       O       O       O       O

Row E   O       O       O       O       O       O       O       O       O

Row F   O       O       O       O       O       O       O       O       O

Row G   X       X       O       O       O       O       O       O       O

Row H   O       O       O       O       O       O       O       O       O

Row I   O       O       O       O       O       O       O       O       O

Row J   O       O       X       O       O       O       O       O       X



How many movie tickets do you want to buy? 4


Pick a seat (Row Seat) d1



        Seat1   Seat2   Seat3   Seat4   Seat5   Seat6   Seat7   Seat8   Seat9

Row A   X       X       X       O       X       O       O       O       O

Row B   O       O       O       O       O       O       O       O       O

Row C   O       O       O       O       O       O       O       O       O

Row D   X       O       O       O       O       O       O       O       O

Row E   O       O       O       O       O       O       O       O       O

Row F   O       O       O       O       O       O       O       O       O
```

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7	Seat8	Seat9
Row G	X	X	O	O	O	O	O	O	O
Row H	O	O	O	O	O	O	O	O	O
Row I	O	O	O	O	O	O	O	O	O
Row J	O	O	X	O	O	O	O	O	X

Pick a seat (Row Seat) d2

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7	Seat8	Seat9
Row A	X	X	X	O	X	O	O	O	O
Row B	O	O	O	O	O	O	O	O	O
Row C	O	O	O	O	O	O	O	O	O
Row D	X	X	O	O	O	O	O	O	O
Row E	O	O	O	O	O	O	O	O	O
Row F	O	O	O	O	O	O	O	O	O
Row G	X	X	O	O	O	O	O	O	O
Row H	O	O	O	O	O	O	O	O	O
Row I	O	O	O	O	O	O	O	O	O
Row J	O	O	X	O	O	O	O	O	X

Pick a seat (Row Seat) d3

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7	Seat8	Seat9
Row A	X	X	X	O	X	O	O	O	O
Row B	O	O	O	O	O	O	O	O	O
Row C	O	O	O	O	O	O	O	O	O
Row D	X	X	X	O	O	O	O	O	O
Row E	O	O	O	O	O	O	O	O	O
Row F	O	O	O	O	O	O	O	O	O
Row G	X	X	O	O	O	O	O	O	O
Row H	O	O	O	O	O	O	O	O	O
Row I	O	O	O	O	O	O	O	O	O
Row J	O	O	X	O	O	O	O	O	X

Pick a seat (Row Seat) d4

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7	Seat8	Seat9
Row A	X	X	X	O	X	O	O	O	O
Row B	O	O	O	O	O	O	O	O	O
Row C	O	O	O	O	O	O	O	O	O
Row D	X	X	X	X	O	O	O	O	O
Row E	O	O	O	O	O	O	O	O	O
Row F	O	O	O	O	O	O	O	O	O
Row G	X	X	O	O	O	O	O	O	O
Row H	O	O	O	O	O	O	O	O	O
Row I	O	O	O	O	O	O	O	O	O
Row J	O	O	X	O	O	O	O	O	X

Thank you Bugs Bunny - enjoy your movie!

1.   Sell tickets to next customer

2.   See who's in line

3.   See the seat map for a given theater

4.   Print today's receipts

Choice : 4

Today's receipts

Receipt #123

        AMC The Parks At Arlington 18

```
          D1          D2          D3          D4


1.        Sell tickets to next customer


2.        See who's in line


3.        See the seat map for a given theater


4.        Print today's receipts


Choice : 1



Hello Daffy Duck



Pick a theater by entering the zipcode


Studio Movie Grill                      76011
AMC The Parks At Arlington 18           76015
Movie Tavern at Green Oaks              76017
Studio Movie Grill Arlington            76018
Rave                                    76053
AMC Palace 9                            76102
AMC Dine-In Clearfork 8                 76109
AMC EastChase 9                         76120


Enter zip 76053
```

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7	Seat8	Seat9	Seat10
Row A	X	X	O	O	O	O	O	O	O	O
Row B	O	O	O	O	X	X	O	O	O	O
Row C	O	O	O	O	O	O	O	O	O	O

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7	Seat8	Seat9	Seat10
Row D	O	O	O	O	O	O	O	O	O	O
Row E	O	O	O	O	O	O	O	O	O	O
Row F	O	O	O	O	O	O	O	O	O	O
Row G	O	O	O	O	O	O	O	O	O	O
Row H	O	O	O	O	O	O	O	O	O	O
Row I	O	O	O	O	O	O	O	O	O	O
Row J	X	X	X	O	O	O	O	O	O	O

How many movie tickets do you want to buy? 4

Pick a seat (Row Seat) j4

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7	Seat8	Seat9	Seat10
Row A	X	X	O	O	O	O	O	O	O	O
Row B	O	O	O	O	X	X	O	O	O	O
Row C	O	O	O	O	O	O	O	O	O	O
Row D	O	O	O	O	O	O	O	O	O	O
Row E	O	O	O	O	O	O	O	O	O	O
Row F	O	O	O	O	O	O	O	O	O	O
Row G	O	O	O	O	O	O	O	O	O	O
Row H	O	O	O	O	O	O	O	O	O	O
Row I	O	O	O	O	O	O	O	O	O	O
Row J	X	X	X	X	O	O	O	O	O	O

Pick a seat (Row Seat) j5

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7	Seat8	Seat9	Seat10
Row A	X	X	O	O	O	O	O	O	O	O
Row B	O	O	O	O	X	X	O	O	O	O
Row C	O	O	O	O	O	O	O	O	O	O
Row D	O	O	O	O	O	O	O	O	O	O
Row E	O	O	O	O	O	O	O	O	O	O

Row F	O	O	O	O	O	O	O	O	O	O
Row G	O	O	O	O	O	O	O	O	O	O
Row H	O	O	O	O	O	O	O	O	O	O
Row I	O	O	O	O	O	O	O	O	O	O
Row J	X	X	X	X	X	O	O	O	O	O

Pick a seat (Row Seat) j6

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7	Seat8	Seat9	Seat10
Row A	X	X	O	O	O	O	O	O	O	O
Row B	O	O	O	O	X	X	O	O	O	O
Row C	O	O	O	O	O	O	O	O	O	O
Row D	O	O	O	O	O	O	O	O	O	O
Row E	O	O	O	O	O	O	O	O	O	O
Row F	O	O	O	O	O	O	O	O	O	O
Row G	O	O	O	O	O	O	O	O	O	O
Row H	O	O	O	O	O	O	O	O	O	O
Row I	O	O	O	O	O	O	O	O	O	O
Row J	X	X	X	X	X	X	O	O	O	O

Pick a seat (Row Seat) j7

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7	Seat8	Seat9	Seat10
Row A	X	X	O	O	O	O	O	O	O	O
Row B	O	O	O	O	X	X	O	O	O	O
Row C	O	O	O	O	O	O	O	O	O	O
Row D	O	O	O	O	O	O	O	O	O	O
Row E	O	O	O	O	O	O	O	O	O	O
Row F	O	O	O	O	O	O	O	O	O	O
Row G	O	O	O	O	O	O	O	O	O	O
Row H	O	O	O	O	O	O	O	O	O	O
Row I	O	O	O	O	O	O	O	O	O	O
Row J	X	X	X	X	X	X	X	O	O	O

Thank you Daffy Duck - enjoy your movie!

1.   Sell tickets to next customer

2.   See who's in line

3.   See the seat map for a given theater

4.   Print today's receipts

Choice : 1

Hello Tweety

Pick a theater by entering the zipcode

Studio Movie Grill	76011
AMC The Parks At Arlington 18	76015
Movie Tavern at Green Oaks	76017
Studio Movie Grill Arlington	76018
Rave	76053
AMC Palace 9	76102
AMC Dine-In Clearfork 8	76109
AMC EastChase 9	76120

Enter zip 76015

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7	Seat8	Seat9
Row A	X	X	X	O	X	O	O	O	O
Row B	O	O	O	O	O	O	O	O	O

Row C	O	O	O	O	O	O	O	O	O
Row D	X	X	X	X	O	O	O	O	O
Row E	O	O	O	O	O	O	O	O	O
Row F	O	O	O	O	O	O	O	O	O
Row G	X	X	O	O	O	O	O	O	O
Row H	O	O	O	O	O	O	O	O	O
Row I	O	O	O	O	O	O	O	O	O
Row J	O	O	X	O	O	O	O	O	X

How many movie tickets do you want to buy? 1

Pick a seat (Row Seat) b1

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7	Seat8	Seat9
Row A	X	X	X	O	X	O	O	O	O
Row B	X	O	O	O	O	O	O	O	O
Row C	O	O	O	O	O	O	O	O	O
Row D	X	X	X	X	O	O	O	O	O
Row E	O	O	O	O	O	O	O	O	O
Row F	O	O	O	O	O	O	O	O	O
Row G	X	X	O	O	O	O	O	O	O
Row H	O	O	O	O	O	O	O	O	O
Row I	O	O	O	O	O	O	O	O	O
Row J	O	O	X	O	O	O	O	O	X

Thank you Tweety - enjoy your movie!

1.   Sell tickets to next customer

2.   See who's in line

3.   See the seat map for a given theater

4.   Print today's receipts

Choice : 1

Hello Elmer Fudd

Pick a theater by entering the zipcode

Studio Movie Grill   76011
AMC The Parks At Arlington 18   76015
Movie Tavern at Green Oaks   76017
Studio Movie Grill Arlington   76018
Rave   76053
AMC Palace 9   76102
AMC Dine-In Clearfork 8   76109
AMC EastChase 9   76120

Enter zip 76011

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7	Seat8	Seat9	Seat10
Row A	X	X	X	O	O	O	O	O	O	O
Row B	X	X	O	O	O	O	O	O	O	O
Row C	O	O	O	O	O	O	O	O	O	O
Row D	O	O	O	O	O	O	O	O	O	X

How many movie tickets do you want to buy? 4

Pick a seat (Row Seat) d1

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7	Seat8	Seat9	Seat10
Row A	X	X	X	O	O	O	O	O	O	O
Row B	X	X	O	O	O	O	O	O	O	O
Row C	O	O	O	O	O	O	O	O	O	O
Row D	X	O	O	O	O	O	O	O	O	X

Pick a seat (Row Seat) d1

Seat D-1 is not available.

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7	Seat8	Seat9	Seat10
Row A	X	X	X	O	O	O	O	O	O	O
Row B	X	X	O	O	O	O	O	O	O	O
Row C	O	O	O	O	O	O	O	O	O	O
Row D	X	O	O	O	O	O	O	O	O	X

Pick a seat (Row Seat) d2

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7	Seat8	Seat9	Seat10
Row A	X	X	X	O	O	O	O	O	O	O
Row B	X	X	O	O	O	O	O	O	O	O
Row C	O	O	O	O	O	O	O	O	O	O
Row D	X	X	O	O	O	O	O	O	O	X

Pick a seat (Row Seat) d3

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7	Seat8	Seat9	Seat10
Row A	X	X	X	O	O	O	O	O	O	O
Row B	X	X	O	O	O	O	O	O	O	O
Row C	O	O	O	O	O	O	O	O	O	O

```
Row D   X       X       X       O       O       O       O       O       O       X


Pick a seat (Row Seat) d5



        Seat1   Seat2   Seat3   Seat4   Seat5   Seat6   Seat7   Seat8   Seat9   Seat10
Row A   X       X       X       O       O       O       O       O       O       O

Row B   X       X       O       O       O       O       O       O       O       O

Row C   O       O       O       O       O       O       O       O       O       O

Row D   X       X       X       O       X       O       O       O       O       X


Thank you Elmer Fudd - enjoy your movie!



1.      Sell tickets to next customer


2.      See who's in line


3.      See the seat map for a given theater


4.      Print today's receipts


Choice :


./Code7_1000074079.e QUEUE=queue.txt ZIPFILE=zip.txt RECEIPTNUMBER=123



1.      Sell tickets to next customer


2.      See who's in line


3.      See the seat map for a given theater


4.      Print today's receipts
```

```
Choice : 1



Hello Bugs Bunny



Pick a theater by entering the zipcode


Studio Movie Grill                      76011
AMC The Parks At Arlington 18           76015
Movie Tavern at Green Oaks              76017
Studio Movie Grill Arlington            76018
Rave                                    76053
AMC Palace 9                            76102
AMC Dine-In Clearfork 8                 76109
AMC EastChase 9                         76120



Enter zip 76017



        Seat1   Seat2   Seat3   Seat4   Seat5   Seat6   Seat7
Row A   O       O       O       O       O       O       O
Row B   O       O       O       O       O       O       O
Row C   O       O       O       O       O       O       O
Row D   O       O       O       O       O       O       O
Row E   O       O       O       O       O       O       O
Row F   O       O       O       O       O       O       O



How many movie tickets do you want to buy? 4

Pick a seat (Row Seat) a1
```

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7
Row A	X	O	O	O	O	O	O
Row B	O	O	O	O	O	O	O
Row C	O	O	O	O	O	O	O
Row D	O	O	O	O	O	O	O
Row E	O	O	O	O	O	O	O
Row F	O	O	O	O	O	O	O

Pick a seat (Row Seat) s2

That is not a valid seat. Please choose again

Pick a seat (Row Seat) a2

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7
Row A	X	X	O	O	O	O	O
Row B	O	O	O	O	O	O	O
Row C	O	O	O	O	O	O	O
Row D	O	O	O	O	O	O	O
Row E	O	O	O	O	O	O	O
Row F	O	O	O	O	O	O	O

Pick a seat (Row Seat) a3

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7
Row A	X	X	X	O	O	O	O
Row B	O	O	O	O	O	O	O
Row C	O	O	O	O	O	O	O
Row D	O	O	O	O	O	O	O
Row E	O	O	O	O	O	O	O
Row F	O	O	O	O	O	O	O

Pick a seat (Row Seat) a4

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7
Row A	X	X	X	X	O	O	O
Row B	O	O	O	O	O	O	O
Row C	O	O	O	O	O	O	O
Row D	O	O	O	O	O	O	O
Row E	O	O	O	O	O	O	O
Row F	O	O	O	O	O	O	O

Thank you Bugs Bunny - enjoy your movie!

1.   Sell tickets to next customer

2.   See who's in line

3.   See the seat map for a given theater

4.   Print today's receipts

Choice : 2

Customer Queue

Daffy Duck
Tweety
Elmer Fudd
Marvin the Martian
Sylvester

1.   Sell tickets to next customer

2.   See who's in line

3.   See the seat map for a given theater

4.   Print today's receipts

Choice : 1

Hello Daffy Duck

Pick a theater by entering the zipcode

Studio Movie Grill   76011
AMC The Parks At Arlington 18   76015
Movie Tavern at Green Oaks   76017
Studio Movie Grill Arlington   76018
Rave   76053
AMC Palace 9   76102
AMC Dine-In Clearfork 8   76109
AMC EastChase 9   76120

Enter zip 76102

        Seat1   Seat2   Seat3   Seat4
Row A   X   X   X   X
Row B   X   X   X   X
Row C   O   O   O   O
Row D   O   O   O   O

```
Row E   X       X       X       X
```

How many movie tickets do you want to buy? 3

Pick a seat (Row Seat) c1

```
        Seat1   Seat2   Seat3   Seat4
Row A   X       X       X       X
Row B   X       X       X       X
Row C   X       O       O       O
Row D   O       O       O       O
Row E   X       X       X       X
```

Pick a seat (Row Seat) c2

```
        Seat1   Seat2   Seat3   Seat4
Row A   X       X       X       X
Row B   X       X       X       X
Row C   X       X       O       O
Row D   O       O       O       O
Row E   X       X       X       X
```

Pick a seat (Row Seat) c3

```
        Seat1   Seat2   Seat3   Seat4
Row A   X       X       X       X
Row B   X       X       X       X
Row C   X       X       X       O
Row D   O       O       O       O
Row E   X       X       X       X
```

Thank you Daffy Duck - enjoy your movie!

1.   Sell tickets to next customer

2.   See who's in line

3.   See the seat map for a given theater

4.   Print today's receipts

Choice : 2

Customer Queue

Tweety
Elmer Fudd
Marvin the Martian
Sylvester

1.   Sell tickets to next customer

2.   See who's in line

3.   See the seat map for a given theater

4.   Print today's receipts

Choice : 1

Hello Tweety

Pick a theater by entering the zipcode

Studio Movie Grill   76011

AMC The Parks At Arlington 18   76015

Movie Tavern at Green Oaks   76017

Studio Movie Grill Arlington   76018

Rave   76053

AMC Palace 9   76102

AMC Dine-In Clearfork 8   76109

AMC EastChase 9   76120

Enter zip 76011

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7	Seat8	Seat9	Seat10
Row A	X	X	X	O	O	O	O	O	O	O
Row B	X	X	O	O	O	O	O	O	O	O
Row C	O	O	O	O	O	O	O	O	O	O
Row D	X	X	X	O	X	O	O	O	O	X

How many movie tickets do you want to buy? 1

Pick a seat (Row Seat) c1

	Seat1	Seat2	Seat3	Seat4	Seat5	Seat6	Seat7	Seat8	Seat9	Seat10
Row A	X	X	X	O	O	O	O	O	O	O
Row B	X	X	O	O	O	O	O	O	O	O
Row C	X	O	O	O	O	O	O	O	O	O
Row D	X	X	X	O	X	O	O	O	O	X

Thank you Tweety - enjoy your movie!

1.   Sell tickets to next customer

2.   See who's in line

3.   See the seat map for a given theater

4.   Print today's receipts

Choice : 1

Hello Elmer Fudd

Pick a theater by entering the zipcode

Studio Movie Grill   76011
AMC The Parks At Arlington 18   76015
Movie Tavern at Green Oaks   76017
Studio Movie Grill Arlington   76018
Rave   76053
AMC Palace 9   76102
AMC Dine-In Clearfork 8   76109
AMC EastChase 9   76120

Enter zip 76120

        Seat1   Seat2   Seat3   Seat4   Seat5   Seat6   Seat7   Seat8   Seat9   Seat10
Row A   O   O   O   O   O   O   O   O   O   O

```
Row B   O       O       O       O       O       O       O       O       O       O

Row C   O       O       O       O       O       O       O       O       O       O

Row D   O       O       O       O       O       O       O       O       O       O

Row E   O       O       O       O       O       O       O       O       O       O

Row F   O       O       O       O       O       O       O       O       O       O

Row G   O       O       O       O       O       O       O       O       O       O

Row H   O       O       O       O       O       O       O       O       O       O

Row I   O       O       O       O       O       O       O       O       O       O

Row J   O       O       O       O       O       O       O       O       O       O
```

How many movie tickets do you want to buy? 1

Pick a seat (Row Seat) a1

```
        Seat1  Seat2  Seat3  Seat4  Seat5  Seat6  Seat7  Seat8  Seat9  Seat10

Row A   X      O      O      O      O      O      O      O      O      O

Row B   O      O      O      O      O      O      O      O      O      O

Row C   O      O      O      O      O      O      O      O      O      O

Row D   O      O      O      O      O      O      O      O      O      O

Row E   O      O      O      O      O      O      O      O      O      O

Row F   O      O      O      O      O      O      O      O      O      O

Row G   O      O      O      O      O      O      O      O      O      O

Row H   O      O      O      O      O      O      O      O      O      O

Row I   O      O      O      O      O      O      O      O      O      O

Row J   O      O      O      O      O      O      O      O      O      O
```

Thank you Elmer Fudd - enjoy your movie!

1.   Sell tickets to next customer

2.   See who's in line

3.   See the seat map for a given theater

4.   Print today's receipts

Choice : 1

Hello Marvin the Martian

Pick a theater by entering the zipcode

Studio Movie Grill   76011
AMC The Parks At Arlington 18   76015
Movie Tavern at Green Oaks   76017
Studio Movie Grill Arlington   76018
Rave   76053
AMC Palace 9   76102
AMC Dine-In Clearfork 8   76109
AMC EastChase 9   76120

Enter zip 76018

          Seat1   Seat2   Seat3   Seat4
Row A   O   O   O   O
Row B   O   O   O   O
Row C   O   O   O   O
Row D   O   O   O   O
Row E   O   O   O   O
Row F   O   O   O   O
Row G   O   O   O   X

```
How many movie tickets do you want to buy? 2


Pick a seat (Row Seat) a1



        Seat1   Seat2   Seat3   Seat4
Row A   X       O       O       O

Row B   O       O       O       O

Row C   O       O       O       O

Row D   O       O       O       O

Row E   O       O       O       O

Row F   O       O       O       O

Row G   O       O       O       X


Pick a seat (Row Seat) b1



        Seat1   Seat2   Seat3   Seat4
Row A   X       O       O       O

Row B   X       O       O       O

Row C   O       O       O       O

Row D   O       O       O       O

Row E   O       O       O       O

Row F   O       O       O       O

Row G   O       O       O       X


Thank you Marvin the Martian - enjoy your movie!



1.      Sell tickets to next customer


2.      See who's in line


3.      See the seat map for a given theater
```

4.   Print today's receipts

Choice : 2

Customer Queue

Sylvester

1.   Sell tickets to next customer

2.   See who's in line

3.   See the seat map for a given theater

4.   Print today's receipts

Choice : 1

Hello Sylvester

Pick a theater by entering the zipcode

Studio Movie Grill   76011
AMC The Parks At Arlington 18   76015
Movie Tavern at Green Oaks   76017
Studio Movie Grill Arlington   76018
Rave   76053
AMC Palace 9   76102
AMC Dine-In Clearfork 8   76109

```
AMC EastChase 9                              76120




Enter zip 76109



          Seat1   Seat2   Seat3   Seat4   Seat5
Row A     X       X       X       O       O
Row B     O       O       O       O       O
Row C     O       O       O       O       O
Row D     O       O       O       O       O
Row E     O       O       O       O       O
Row F     O       O       O       O       O
Row G     O       O       O       O       O
Row H     O       O       O       O       O



How many movie tickets do you want to buy? 2

Pick a seat (Row Seat) a4



          Seat1   Seat2   Seat3   Seat4   Seat5
Row A     X       X       X       X       O
Row B     O       O       O       O       O
Row C     O       O       O       O       O
Row D     O       O       O       O       O
Row E     O       O       O       O       O
Row F     O       O       O       O       O
Row G     O       O       O       O       O
Row H     O       O       O       O       O


Pick a seat (Row Seat) a5
```

```
        Seat1   Seat2   Seat3   Seat4   Seat5

Row A   X       X       X       X       X

Row B   O       O       O       O       O

Row C   O       O       O       O       O

Row D   O       O       O       O       O

Row E   O       O       O       O       O

Row F   O       O       O       O       O

Row G   O       O       O       O       O

Row H   O       O       O       O       O
```

Thank you Sylvester - enjoy your movie!

Good job - you sold tickets to all of the customers in line.

Today's receipts

Receipt #128

      AMC Dine-In Clearfork 8

      A4   A5

Receipt #127

      Studio Movie Grill Arlington

      A1   B1

Receipt #126

      AMC EastChase 9

      A1

```
Receipt #125

        Studio Movie Grill

        C1


Receipt #124

        AMC Palace 9

        C1      C2      C3


Receipt #123

        Movie Tavern at Green Oaks

        A1      A2      A3      A4
```

If no unprinted receipts are available and option 4 is used…

```
1.      Sell tickets to next customer

2.      See who's in line

3.      See the seat map for a given theater

4.      Print today's receipts

Choice : 4


No receipts
```