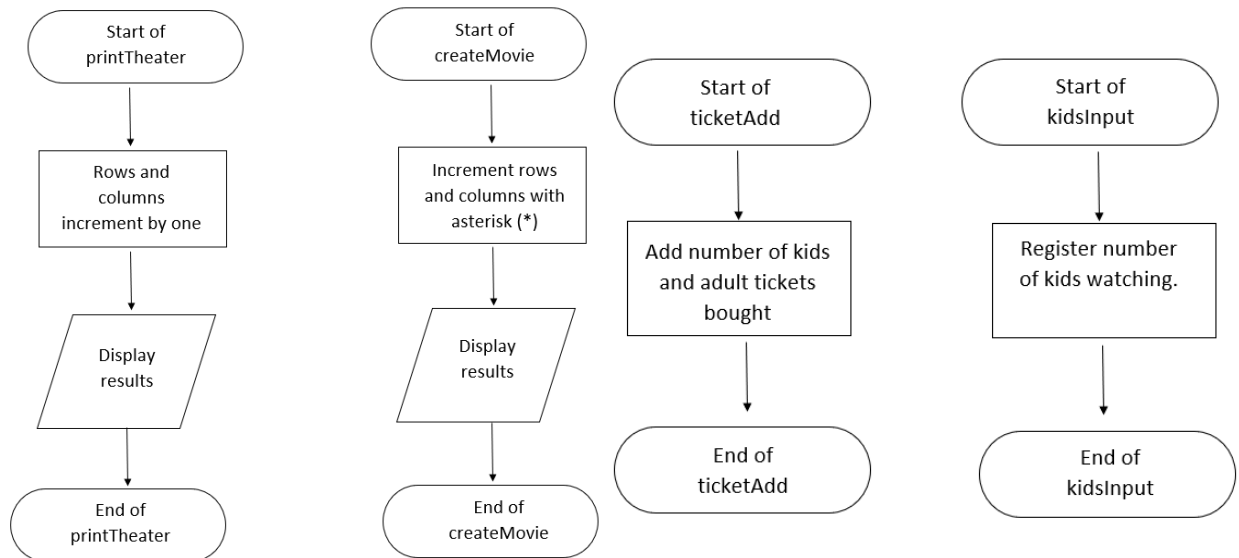Samuel Barker

Sbarker1@my.athens.edu
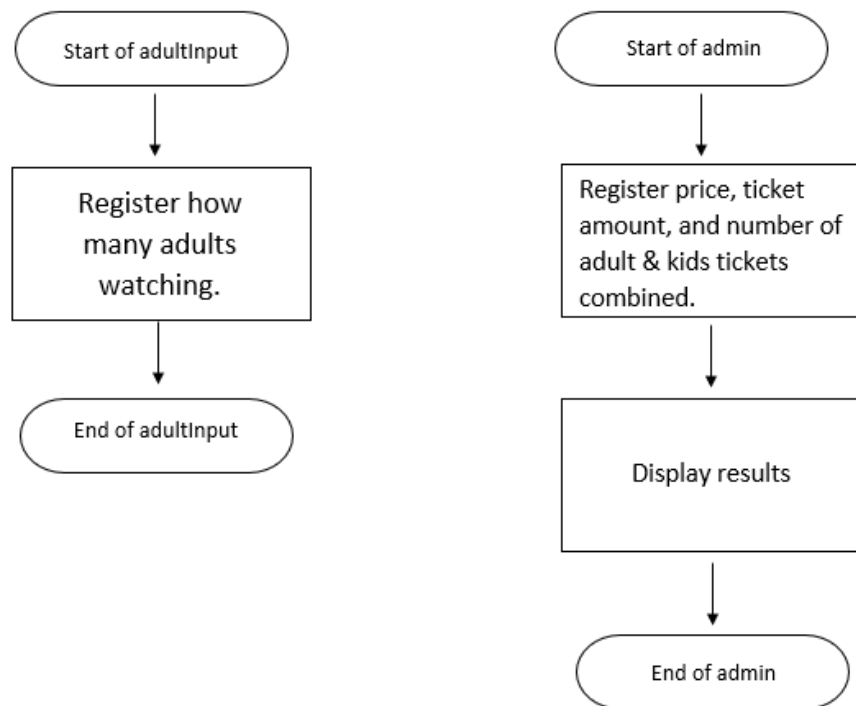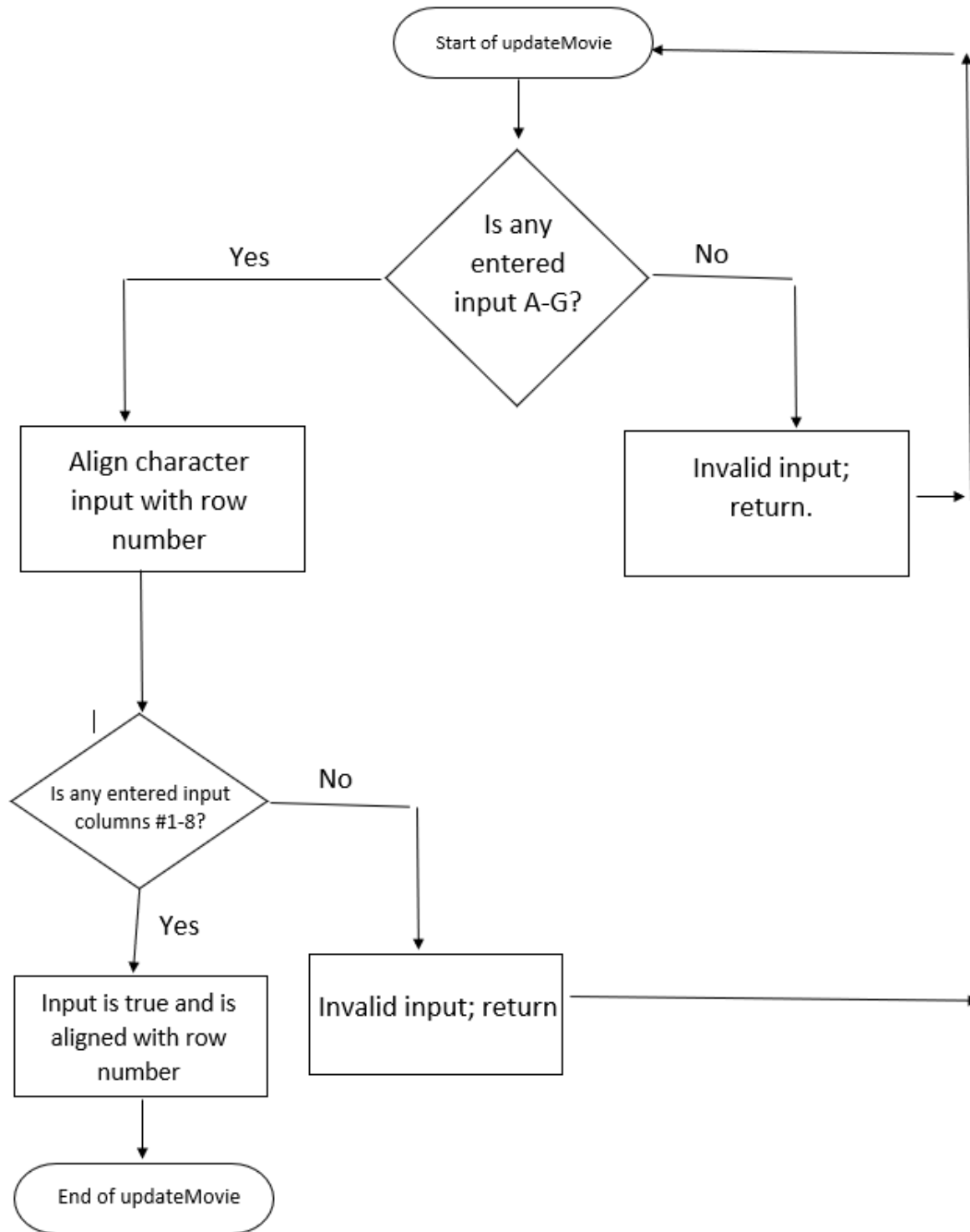
00100768

Project 3

Project 3 Movie Theater Flowchart(s):

"Split" Function Flowcharts (each are separate flowcharts):

adultInput

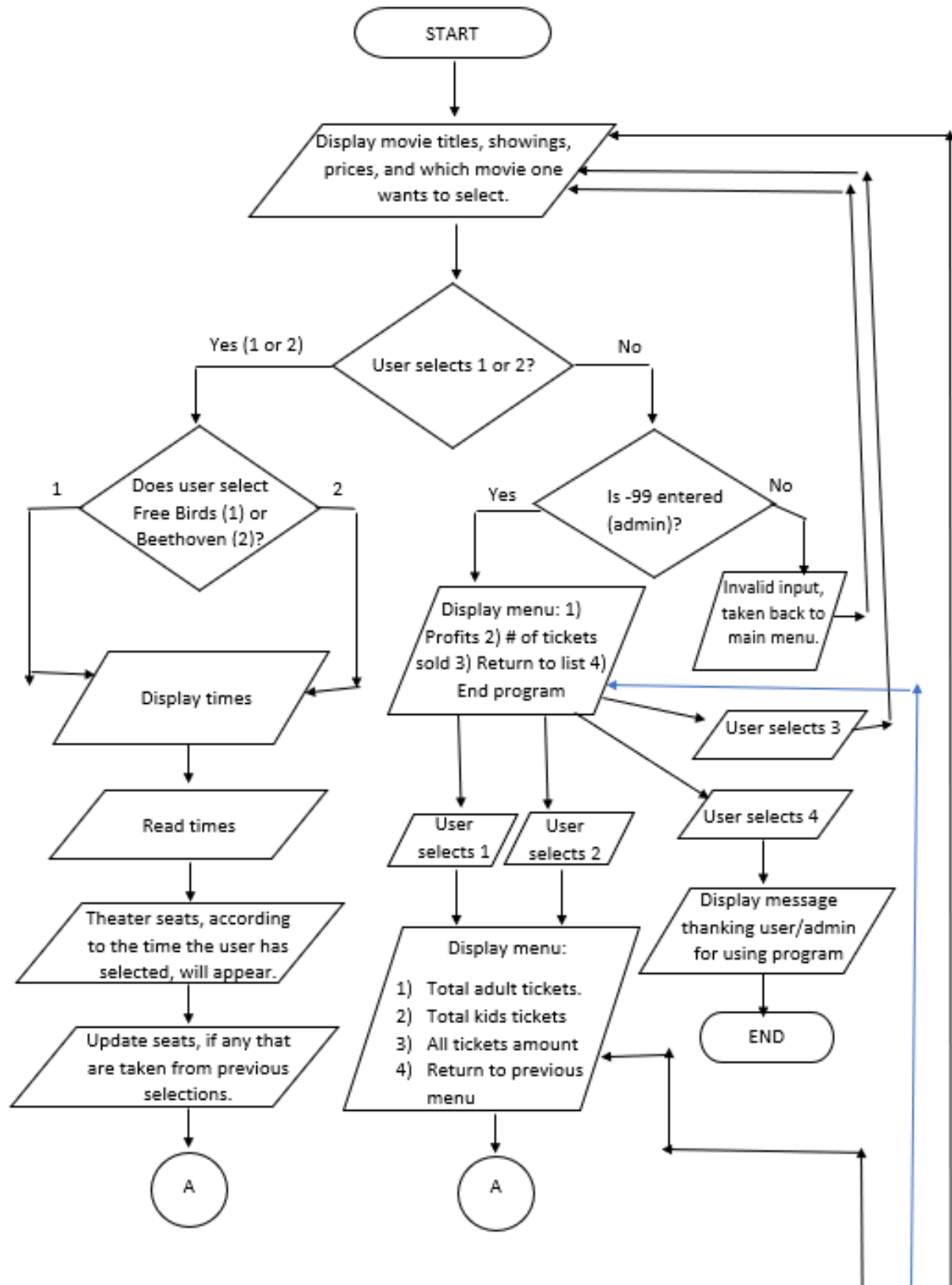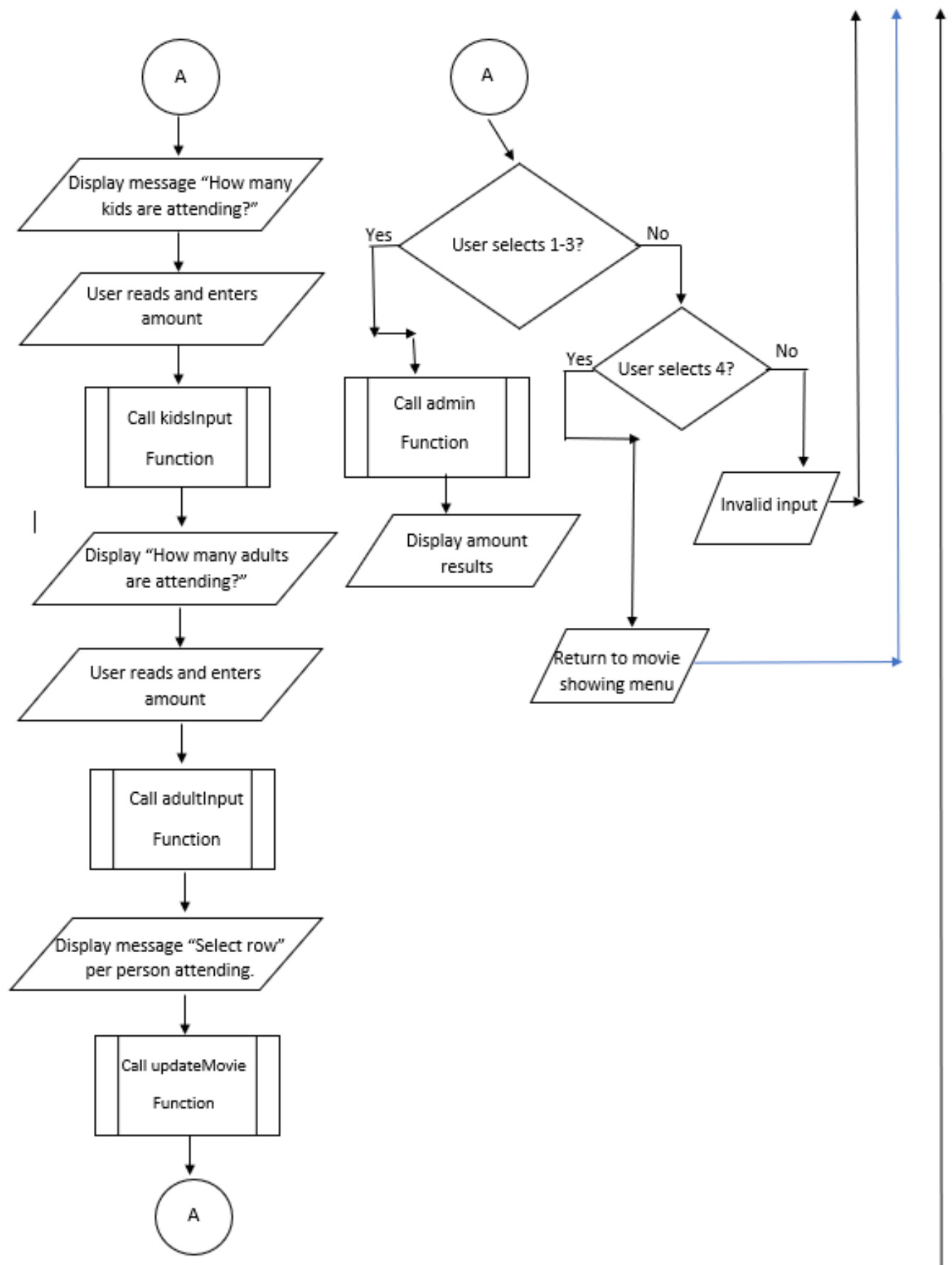Start of adultInput

↓

Register how many adults watching.

↓

End of adultInput

admin

Start of admin

↓

Register price, ticket amount, and number of adult & kids tickets combined.

↓

Display results

↓

End of admin

Continue to next page…

```
                          ┌─────────────────────┐
                          │  Start of updateMovie│
                          └─────────────────────┘
                                    │
                                    ▼
                              ╱           ╲
                            ╱   Is any       ╲
              Yes        ╱     entered         ╲      No
         ┌────────────╱      input A-G?          ╲────────────┐
         │             ╲                        ╱             │
         │               ╲                    ╱               │
         │                 ╲                ╱                 │
         ▼                   ╲           ╱                    ▼
┌──────────────────┐                              ┌──────────────────┐
│  Align character  │                              │  Invalid input;   │
│  input with row   │                              │  return.          │
│  number           │                              │                   │
└──────────────────┘                              └──────────────────┘
         │
         ▼
       ╱     ╲
     ╱ Is any  ╲        No
   ╱  entered    ╲──────────────┐
   ╲  input       ╱             │
   ╲ columns #1-8?╱             │
     ╲         ╱                │
       ╲     ╱                  ▼
         │ Yes          ┌──────────────────┐
         ▼              │ Invalid input;    │
┌──────────────────┐   │ return            │
│ Input is true and │   └──────────────────┘
│ is aligned with   │
│ row number        │
└──────────────────┘
         │
         ▼
┌──────────────────┐
│ End of updateMovie│
└──────────────────┘
```

"Main" Project Flowchart:

```
        ( A )                                    ( A )
          │                                        │
          ▼                                        ▼
┌────────────────────┐                    ◇ User selects 1-3? ◇
│ Display message "How many │          Yes ╱                   ╲ No
│ kids are attending?"      │             ╱                     ╲
└────────────────────┘            ┌────────────┐          ▼
          │                        │            │    ◇ User selects 4? ◇
          ▼                        ▼        Yes ╱              ╲ No
┌────────────────────┐    ┌──────────────┐    ╱                ╲
│ User reads and enters  │ │ Call admin   │  ▼                 ▼
│ amount                 │ │ Function     │          ┌──────────────┐
└────────────────────┘    └──────────────┘          │ Invalid input│
          │                        │                 └──────────────┘
          ▼                        ▼
┌──────────────────┐      ┌──────────────┐
│ Call kidsInput   │      │ Display amount│
│ Function         │      │ results       │
└──────────────────┘      └──────────────┘
          │
          ▼
┌────────────────────┐
│ Display "How many adults │
│ are attending?"          │
└────────────────────┘          ┌──────────────┐
          │                      │ Return to movie│
          ▼                      │ showing menu   │
┌────────────────────┐          └──────────────┘
│ User reads and enters  │
│ amount                 │
└────────────────────┘
          │
          ▼
┌──────────────────┐
│ Call adultInput  │
│ Function         │
└──────────────────┘
          │
          ▼
┌────────────────────┐
│ Display message "Select row" │
│ per person attending.        │
└────────────────────┘
          │
          ▼
┌──────────────────┐
│ Call updateMovie │
│ Function         │
└──────────────────┘
          │
          ▼
        ( A )
```

A

Display message "What seat
number would you like?"

Call updateMovie

Function

Call printTheater

Function

Call createMovie

Function

Display total price for tickets

Screenshots on next page…

Project 3 Screenshots:

1st Full Menu Display (User):

```
_____Welcome to the Movie Theater!_____

Now Showing:
-----------------------------
Free Birds      3:30      6:00
Bethooven       5:30      7:30
-----------------------------

Prices:
-------------------------------------------------------
Adult Tickets: $6.00 matinee (before 6pm) & $8.00 (evening)
Child Tickets: $4.00 matinee (before 6pm) & $6.00 (evening)
-------------------------------------------------------

Please select 1 if you would like to watch Free Birds
OR
Please select 2 if you would like to watch Bethooven
```

Selecting a movie and time:

```
Prices:
-------------------------------------------------------
Adult Tickets: $6.00 matinee (before 6pm) & $8.00 (evening)
Child Tickets: $4.00 matinee (before 6pm) & $6.00 (evening)
-------------------------------------------------------

Please select 1 if you would like to watch Free Birds
OR
Please select 2 if you would like to watch Bethooven
```

If user enters value besides 1 or 2, invalid input message prompts and re-asks user for new selection (input validation):

```
Please select 1 if you would like to watch Free Birds
OR
Please select 2 if you would like to watch Bethooven
4
The selection you made was invalid!
Please select 1 if you would like to watch Free Birds
or select 2 if you would like to watch Bethooven
```

When selecting "Free Birds" (1), program asks what time:

```
Please select 1 if you would like to watch Free Birds at 3:30
Please select 2 if you would like to watch Free Birds at 6:00
```

When selecting "Bethooven" (2), program asks what time:

```
Please select 2 if you would like to watch Bethooven
2
Select 1 if you would like to watch Bethooven at 5:30
Select 2 if you would like to watch Bethooven at 7:30
```

When selecting <u>either</u> the 3:30 showing or 6:00 showing, a theater seating chart appears:

```
   1 2 3 4 5 6 7 8
A  * * * * * * * *
B  * * * * * * * *
C  * * * * * * * *
D  * * * * * * * *
E  * * * * * * * *
F  * * * * * * * *
G  * * * * * * * *
```

Program asks how many kids and adults are watching:

```
Please enter how many kids are watching: 3

Please enter how many adults are watching: 2
```

Select seats for every person watching (rows and columns):

```
Please select your seats.
What row would you like to sit at
Enter A , B , C , D , E , F , or G
```

Once finished, total price amount is displayed for user:

```
Total ticket price: $36.00
```

Free Birds 3:30 showing

1st Social Distancing Seating Scenario (1 kid, 0 adult):

```
   1 2 3 4 5 6 7 8
A  # X * * * * * *
B  X * * * * * * *
C  * * * * * * * *
D  * * * * * * * *
E  * * * * * * * *
F  * * * * * * * *
G  * * * * * * * *
```

2nd Social Distancing Scenario (adding 1 adult, 3 kids):

```
   1 2 3 4 5 6 7 8
A  # X X # # X # #
B  X * * X X * X X
C  * * * * * * * *
D  * * * * * * * *
E  * * * * * * * *
F  * * * * * * * *
G  * * * * * * * *
```

3rd Social Distancing Scenario (adding 1 kid, 3 adults):

```
   1 2 3 4 5 6 7 8
A  # X X # # X # #
B  X * * X X * X X
C  * X * X X X * *
D  X # X # # # X *
E  * X * X X X * *
F  * * * * * * * *
G  * * * * * * * *
```

4th Social Distancing Scenario (adding 1 kid, 1 adult):

```
   1 2 3 4 5 6 7 8
A  # X X # # X # #
B  X X # X X * X X
C  * X X X X X * *
D  X # X # # # X X
E  * X * X X X X #
F  X * * * * * * X
G  * * * * * * * *
```

5th Social Distancing Scenario (1 adult, 3 kids):

```
   1 2 3 4 5 6 7 8
A  * * * X * * * *
B  * * X # X * * *
C  * X * X * * * *
D  X # X * * * * *
E  * X * * * * * X
F  * * * * * * X #
G  X * * * * X # X
```

Free Birds 6:00 showing

1st Social Distancing Seating Scenario (2 kids, 1 adult):

```
  1 2 3 4 5 6 7 8
A # X * X # X * *
B X * * * X * * *
C * * * * * * X *
D * * * * * X # X
E * * * * * * X *
F * * * * * * * *
G * * * * * * * *
```

2nd Social Distancing Scenario (adding 2 adults, 0 kids):

```
  1 2 3 4 5 6 7 8
A # X * X # X X #
B X * X * X * * X
C * X # X * * X *
D * * X * * X # X
E * * * * * * X *
F * * * * * * * *
G * * * * * * * *
```

3rd Social Distancing Scenario (adding 1 kid, 3 adults):

```
  1 2 3 4 5 6 7 8
A # X * X # X X #
B X * X * X X * X
C X X # X X # X *
D # X X * X X # X
E X * * X # X X *
F * * * * X * * X
G * * * * * * X #
```

4th Social Distancing Scenario (adding 1 kid, 1 adult):

```
  1 2 3 4 5 6 7 8
A # X * X # X X #
B X * X * X X * X
C X X # X X # X *
D # X X * X X # X
E X * * X # X X *
F * * * X X # X X
G * * X # X X X #
```

5th Social Distancing Scenario (adding 1 adult, 0 kids):

```
  1 2 3 4 5 6 7 8
A # X * X # X X #
B X * X * X X * X
C X X # X X # X *
D # X X * X X # X
E X * * X # X X *
F X * * X X # X X
G # X X # X X X #
```

Bethooven 5:30 Showing:

1st Social Distancing Seating Scenario (0 kids, 3 adults):

```
   1 2 3 4 5 6 7 8
A  # X * * X # X #
B  X * * * * X * X
C  * * * * * * * *
D  * * * * * * * *
E  * * * * * * * *
F  * * * * * * * *
G  * * * * * * * *
```

2nd Social Distancing Scenario (adding 1 adult, 1 kid):

```
   1 2 3 4 5 6 7 8
A  # X * X X # X #
B  X X X # X X * X
C  X # X X * * * *
D  * X * * * * * *
E  * * * * * * * *
F  * * * * * * * *
G  * * * * * * * *
```

3rd Social Distancing Scenario (adding 1 kid, 3 adults):

```
   1 2 3 4 5 6 7 8
A  # X * X X # X #
B  X X X # X X # X
C  X # X X * * X *
D  # X X # X * X *
E  X * * X * X # X
F  * * * * * * X *
G  * * * * * * * *
```

4th Social Distancing Scenario (adding 0 kid, 1 adult):

```
   1 2 3 4 5 6 7 8
A  # X * X X # X #
B  X X X # X X # X
C  X # X X X # X *
D  # X X # X X X *
E  X * * X * X # X
F  * * * * * * X *
G  * * * * * * * *
```

5th Social Distancing Scenario (adding 2 adults, 0 kids):

```
   1 2 3 4 5 6 7 8
A  # X * X X # X #
B  X X X # X X # X
C  X # X X X # X *
D  # X X # X X X *
E  X * * X * X # X
F  X * * X * * X *
G  # X X # X * * *
```

Bethooven 7:30 Showing:

1st Social Distancing Seating Scenario (2 kids, 1 adult):

```
  1 2 3 4 5 6 7 8
A # # X * * * X #
B X X * * * * * X
C * * * * * * * *
D * * * * * * * *
E * * * * * * * *
F * * * * * * * *
G * * * * * * * *
```

2nd Social Distancing Scenario (adding 2 adults, 1 kid):

```
  1 2 3 4 5 6 7 8
A # # X X # X X #
B X X # X X * * X
C # X X * * * * *
D X * * * * * * *
E * * * * * * * *
F * * * * * * * *
G * * * * * * * *
```

3rd Social Distancing Scenario (adding 1 kid, 2 adults):

```
  1 2 3 4 5 6 7 8
A # # X X # X X #
B X X # X X * X X
C # X X X # X # X
D X # X * X * X *
E * X * * * * * *
F * * * * * * * *
G * * * * * * * *
```

4th Social Distancing Scenario (adding 0 kid, 1 adult):

```
  1 2 3 4 5 6 7 8
A # # X X # X X #
B X X # X X * X X
C # X X X # X # X
D X # X * X * X *
E * X * * * * * *
F * * * * * * * X
G * * * * * * X #
```

5th Social Distancing Scenario (adding 1 adult, 1 kid):

```
  1 2 3 4 5 6 7 8
A # # X X # X X #
B X X # X X * X X
C # X X X # X # X
D X # X * X * X *
E X X * X * * * *
F # X X # X * * X
G X * * X * * X #
```

Menu Display for Admin (entering -99):

```
-99
Please enter an option below:
1) Profits
2) number of tickets sold
3) Return to movies list
4) Run end of day
```

If invalid input, message prompts and re-asks (input validation):

```
Please enter an option below:
1) Profits
2) number of tickets sold
3) Return to movies list
4) Run end of day
-9
Invalid input, please try again.
```

Selecting 1 (Profits):

```
1
Select 1 to see money made by adults tickets.
Select 2 to see money made by kids tickets.
Select 3 to see money made all togther.
Select 4 to go back to menu.
```

Selecting 1:

```
Select 1 to see money made by adults tickets.
Select 2 to see money made by kids tickets.
Select 3 to see money made all togther.
Select 4 to go back to menu.
1
The amount of purchased adult tickets is: $6
```

Selecting 2:

```
Select 1 to see money made by adults tickets.
Select 2 to see money made by kids tickets.
Select 3 to see money made all togther.
Select 4 to go back to menu.
2
The amount of purchased kids tickets is: $8
```

Selecting 3:

```
Select 1 to see money made by adults tickets.
Select 2 to see money made by kids tickets.
Select 3 to see money made all togther.
Select 4 to go back to menu.
3
The total amount of many made is: $14
```

Selecting 4 (back to admin menu):

```
Select 4 to go back to menu.
4
Returning to menu.
Please enter an option below:
1) Profits
2) number of tickets sold
3) Return to movies list
4) Run end of day
```

From admin's menu, selecting 2 will bring:

```
2
Select 1 to see tickets sold to adults
Select 2 to see tickets sold to kids
Select 3 to see tickets sold all togther
Select 4 to go back to menu
```

Selecting 3 from main admin's menu:

```
Please enter an option below:
1) Profits
2) number of tickets sold
3) Return to movies list
4) Run end of day
3
Returning to movie selections.

_____Welcome to the Movie Theater!_____
```

Next page…

Selecting 4 (End of program)

```
Please enter an option below:
1) Profits
2) number of tickets sold
3) Return to movies list
4) Run end of day
4
Running end of day...
Have a nice day.
```