Due date: April 13th/2017
You can do this assignment with *__one__* partner, in which case, hand in __one__ piece of work with __both__ your names on it.

Create a Java Applet using __Java Swing__ components and **layout managers**, call it **MovieTheatre.java,** that will allow customers to buy movie tickets for a particular movie. It should have the following functionality and layout :

Main Screen
The **initial main screen** is as shown on the next page.

__Layout__
Ensure that the layout of the main screen **remains the same**, whatever the size of the applet (i.e. **use layout managers**)

Note that [All] and [Adult-$5.50] should already be **selected by default**. Also as [All] is selected by default, **then all movies** should also be displayed in the **Select Movie JList box**.
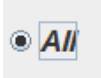
Functionality

1. The customer can click on any of the following movie ratings (although, when the applet is first run, ◉ *All* should already be selected.

Select Movie Rating

◉ *All*	○ *G*
○ *PG*	○ *14A*
○ *18A*	○ *R*

As ◉ *All* is initially selected, **then all movies** should be displayed in the **Select Movie JList box**, i.e.:

Select Movie Rating

◉ *All*	○ *G*
○ *PG*	○ *14A*
○ *18A*	○ *R*

Select Movie
- A United Kingdom
- Amitiville The Awakening
- Arrival
- Baywatch
- Beauty and the Beast
- Blade Runner 2049
- Blazing Samurai
- Fifty Shades Darker
- Furious 8: The Fate of the Furious
- Ghost in the Shell
- Guardians of the Galaxy: Vol 2
- John Wick Chapter 2
- Justice League
- Logan
- Power Rangers
- Rogue One: A Star Wars Story

Of course if for example ⦿ *G* was selected , then only "G" rated movies will be displayed, i.e.:
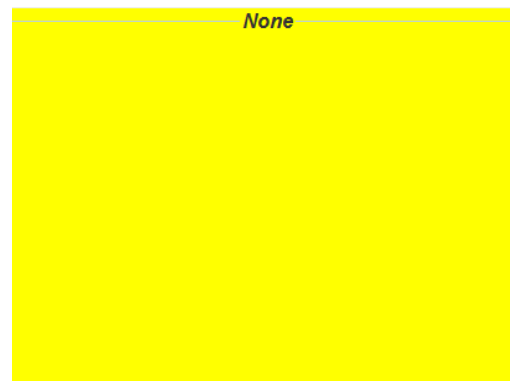
```
┌─ Select Movie Rating ──────────────────────┐  ┌─ Select Movie ──────────────────────────┐
│                                            │  │ Blazing Samurai                         │
│                                            │  │ Power Rangers                           │
│   ○ All                ⦿ G                 │  │ Spider-man: Homecoming                  │
│                                            │  │ Star Wars Episode VIII                  │
│                                            │  │ The Lego Batman Movie                   │
│                                            │  │                                         │
│   ○ PG                 ○ 14A               │  │                                         │
│                                            │  │                                         │
│                                            │  │                                         │
│                                            │  │                                         │
│   ○ 18A                ○ R                 │  │                                         │
│                                            │  │                                         │
└────────────────────────────────────────────┘  └─────────────────────────────────────────┘
```
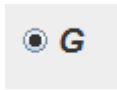
Note also, each time you click on one of the movie ratings, make sure to clear the following: **the Select Show Time JListBoix** and the **picture label box**, i.e:
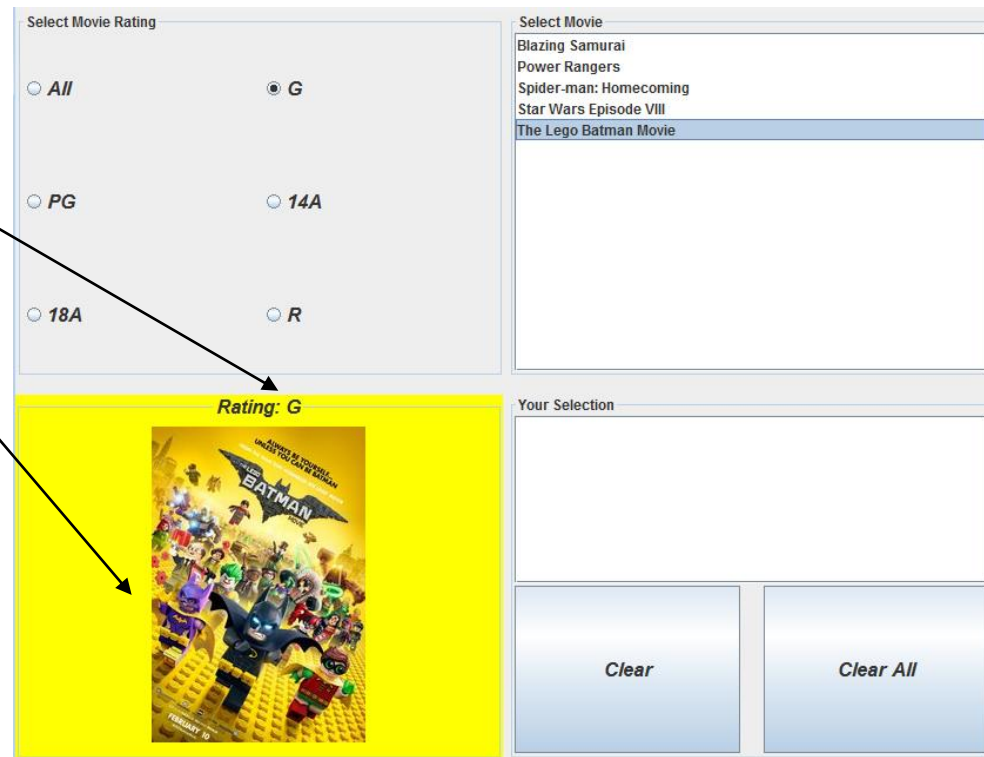
```
                                                    ┌──────────── None ────────────┐
                                                    │                              │
                                                    │                              │
┌─ Select Show Time ──────────┐                     │                              │
│                             │                     │                              │
│                             │                     │                              │
│                             │                     │                              │
│                             │                     │                              │
│                             │                     │                              │
│                             │                     │                              │
│                             │                     └──────────────────────────────┘
└─────────────────────────────┘
```

as each movie has a different set of show times and picture poster.
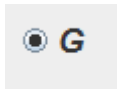
2. Assuming ⊙ **G** was selected, the customer can click on any of the movies displayed in the **Select Movie JList box**. As soon as a movie is selected, the picture poster of that movie is displayed in it's respective component, with a the rating appearing in the border above the picture, i..e:
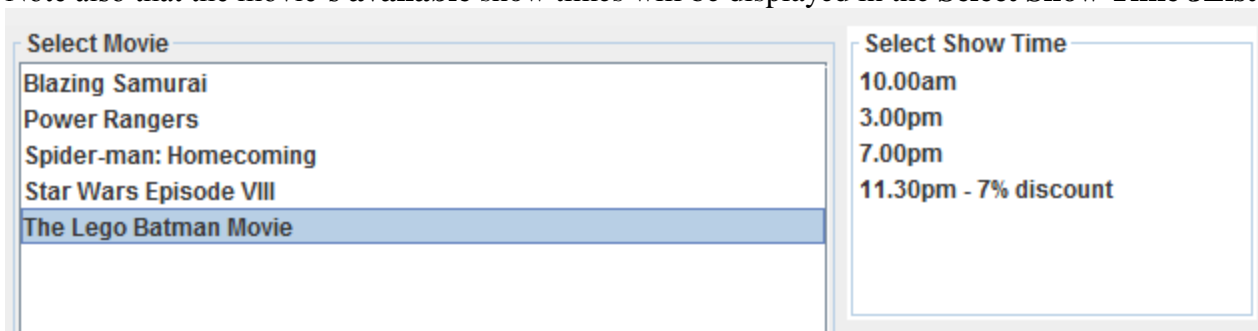

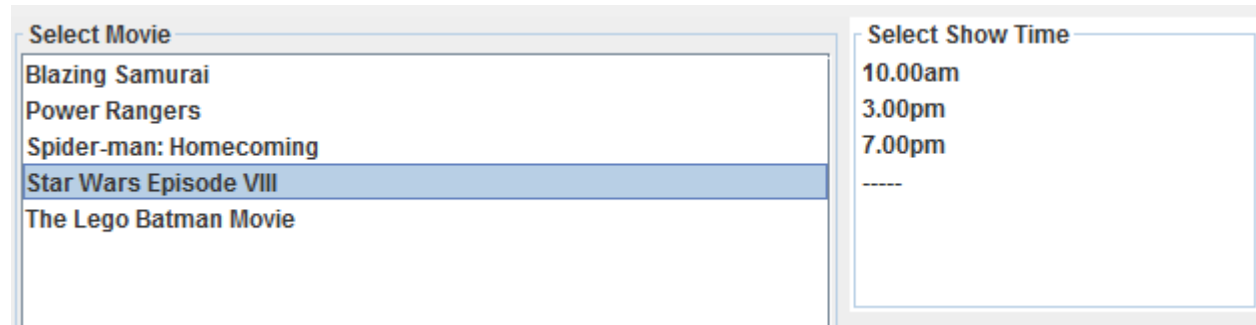Note also that the movie's **available** show times will be displayed in the **Select Show Time JList box**, i.e.:

Each movie has a **different set of show times** available, i.e.:

Above shows that this movie only has 3 show times available.
Note that if the **user clicks** on an **invalid** show time, it should display with **red** background, **white** foreground, i.e.:
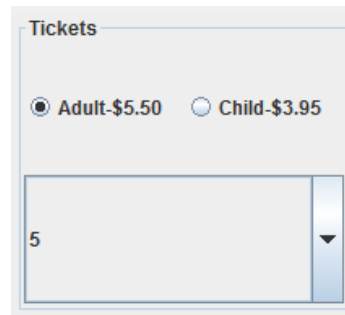
All **valid** show times will be displayed in their **default colour, i.e.**
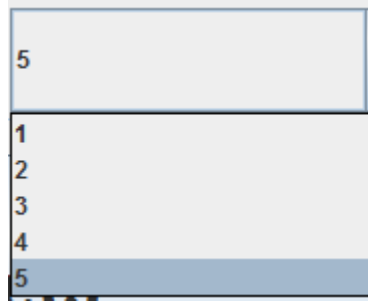
3. Continuing from above, if the user clicks on the 7.00pm show time and then selects the following:

Tickets

● Adult-$5.50   ○ Child-$3.95

5

That is, **5 tickets for Adult @ $5.50 per ticket**.

5

1
2
3
4
Note there should be 5   for the tickets pull down box.

Select

4. Upon clicking on the [Select] button, the following is displayed:

Applet

Select Movie Rating

○ All   ◉ G

○ PG   ○ 14A

○ 18A   ○ R

Select Movie

Blazing Samurai
Power Rangers
Spider-man: Homecoming
Star Wars Episode VIII
The Lego Batman Movie

Select Show Time

10.00am
3.00pm
7.00pm

Tickets

◉ Adult-$5.50   ○ Child-$3.95

5

Select

Rating: G

Your Selection

Star Wars Episode VIII ==> $27.50

| Clear | Clear All |

Total: $27.50

Enter Credit Card #

| Submit |

For Employee use ONLY

m	n	o	p
q	r	s	t

	Enter
	Reset

Applet started.

Note, the **Total JLabel field** should keep a **running total**, i.e. as soon as the "**Select**" button is clicked, the new **accumulated** total should be displayed, i.e.:

So, above shows another movie was selected, so a new entry was added to the Your Selection JList box, with the new total displayed in the **Total JLabel field** ..

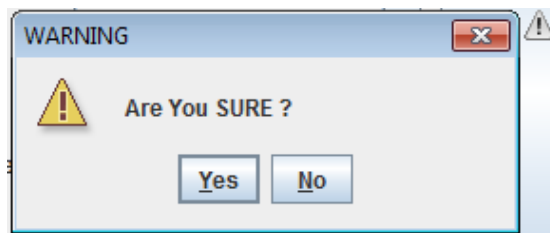The **Total JLabel field** should also have a **cyan** background, with the font as shown.

5. If the customer is ready to pay for the movie tickets, he/she will enter the **credit card number** (NOT an actual one of course) and click the

Total: $38.50

Enter Credit Card #

•••••••••••••••••••••••••

Submit

submit button, i.e.: (Note the credit card field must be a **JPasswordField**)

WARNING ☒ ⚠

⚠ Are You SURE ?

Yes   No
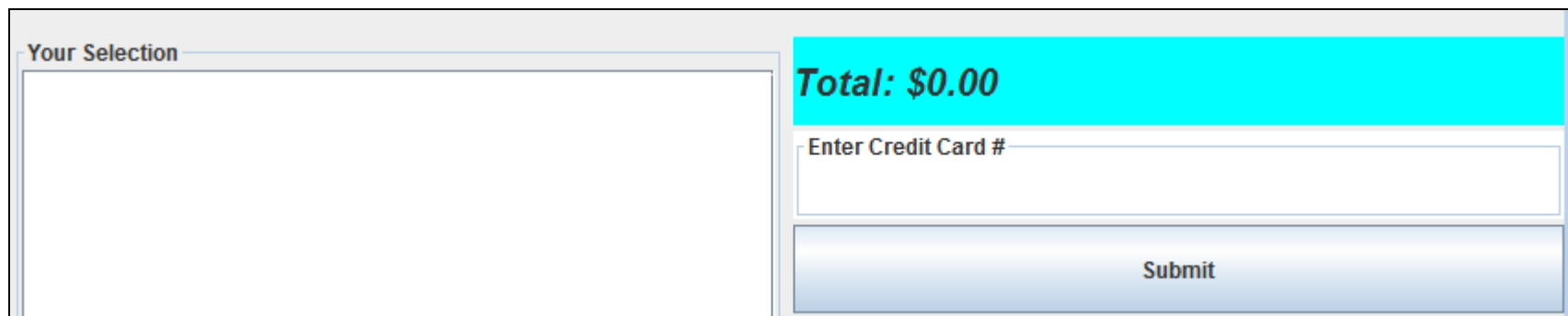
A warning box appears, i.e.: If the customer clicks "**Yes**" then

Confirmation ☒

ⓘ Total: $38.50 has been charged to your card, Thank you

OK
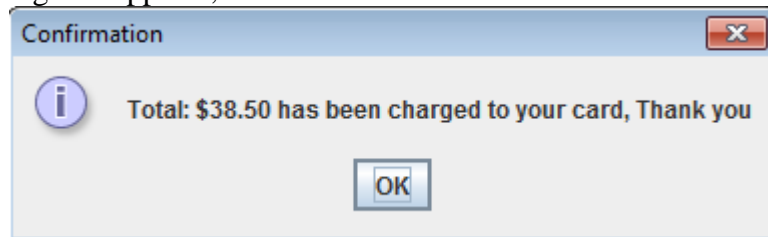
appears. Clicking on "Ok" will clear the **Your Selection JList box** and display 0s for **Total JLabel field i.e..**

Your Selection

Total: $0.00

Enter Credit Card #

Submit

If the **No** button or **close button** is clicked, then **NO action is taken (assuming the customer wants to order more tickets)**.

If the customer clicks "Submit" and **there are movies already selected**, but **did NOT enter a credit number**, then after the usual " Are You Sure
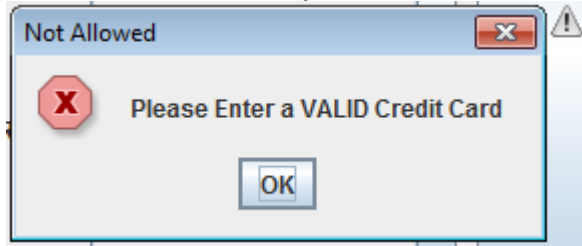
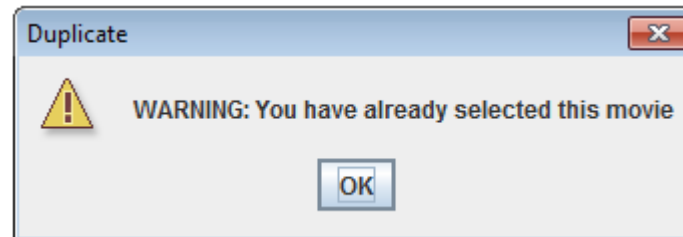Yes/No" dialog box, it should display .

If there are **NO movies selected**, from **Select Movie** JList box, but the customer still clicks on the "**Submit**" button (**after** entering a credit card
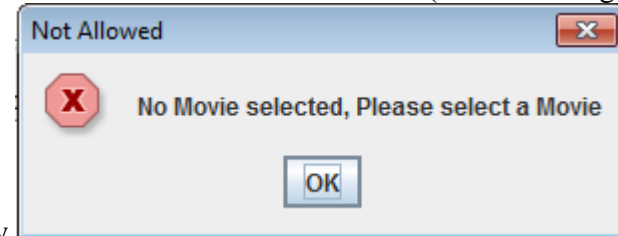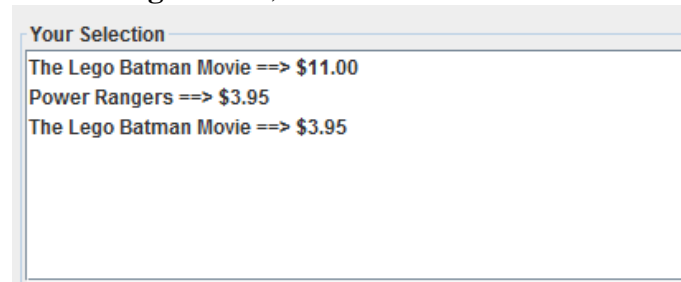

number), then after the usual " Are You Sure Yes/No" dialog box, it should display .

Selecting the SAME movie already present in Your SelectionJListBox
If the user selected a movie that is already in the **Your Selection** JList box, then the following warning message should appear:
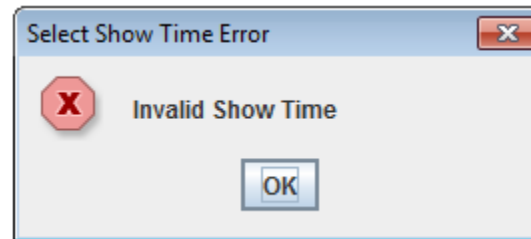
However, after click on "OK", the transaction **should still go ahead**, i.e.:
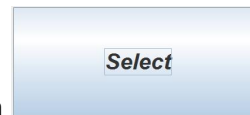
```
Your Selection
The Lego Batman Movie ==> $11.00
Power Rangers ==> $3.95
The Lego Batman Movie ==> $3.95
```

Selecting invalid show time

If the user selected an invalid show time and the proceeded to click the [Select] button, then the following error box should appear:

```
Select Show Time Error                    X
   (X)    Invalid Show Time

              OK
```
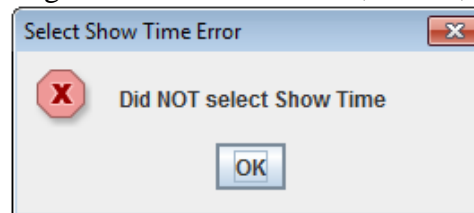
In this case after clicking on "OK" ,*NO transaction should occur*.

Not selecting a Show time

If the user did NOT select a valid show time before clicking on [Select], button, then display the following error box:

```
Select Show Time Error                    X
   (X)    Did NOT select Show Time

              OK
```
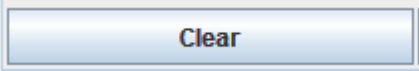
Clear and Clear All Button

These buttons allow the customer to **remove** their selections from the Your Selection JList box.

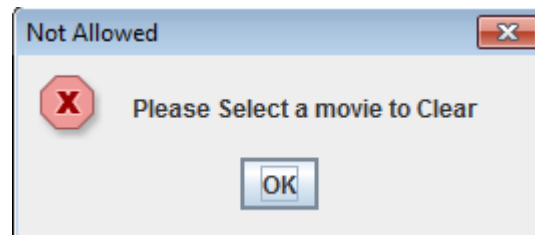The **Your Selection** JList Box is **single-selectable**, i.e.

Once a selected movie has been chosen and the button was clicked, then that entry would be removed from the Your Selection JList box with the Total JLabel field updated i.e. if the above was selected and the clear button was clicked, then the amount should be
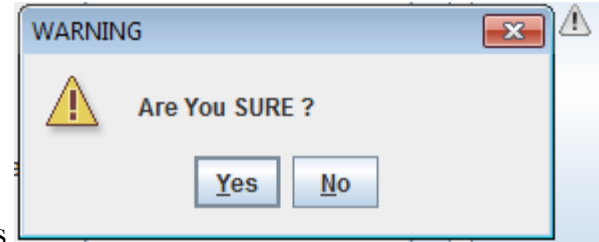
reduced from. to , that is, it should keep a **running total**. **NOTE**, if the customer continues to clear every selection in the Your Selection JList box, **then the total eventually should be 0.00.**

If the **Clear button** was clicked **BUT NO movie** was selected to clear from the **Your Selection** JList box, then the following error box should appear.

If the [Clear All] button is clicked then a warning box such as [WARNING Are You SURE? Yes No] is displayed. If customer clicks on **Yes button**, then **ALL** the movies will be deleted from the Your Selection JList Box, with $0.00 displayed in the Total JLabel field.

If the **No** button or **close button** is clicked, then **NO action is taken**.

Child Tickets

Children are **NOT** allowed for **18A** or **R** rated movies, thus child tickets cannot be purchased for these films. Please display the following error box, if the user attempts to do so.
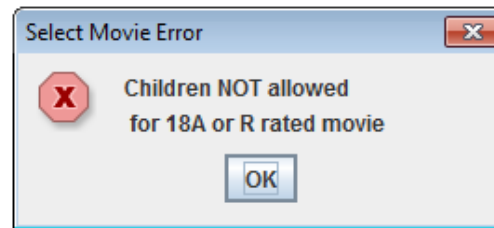
Children are also **NOT** allowed for the **11.30pm Show time**. If the user selects this show time and clicked on [⦿ Child-$3.95], then upon clicking the

[Select]

button, it should display the following error box:

Note though that the **<u>first error</u>**, i.e. 18A/R rated movies, takes **precedence**.

11.30pm 7% Discount
If the user select this show time for a movie, then there will be a **7% discount**. The discount will be applied **AFTER** calculating the subtotal for that specific movie, i.e.:

Here, Lego Batman had **2 adult tickets @ $5.50** each, so the subtotal is $11.00. After the **7% discount, it is $10.23**. Note, for the next movie, the user **did not** select this show time (or was **not available**), so it was calculated at the regular price.

Movie Update

This is a **JPassword** Field, where employees can enter a passcode using the **keypad ONLY**. If **Enter** button is clicked and the correct passcode was entered, then it will go into the Movie Update window (please see next page for details).

The passcode can be any **number of letters in the keypad.**

 The passcode variable itself is declared in **MovieTheatre.java**" file. Please **set the passcode in your applet** (preferably in "**init**".
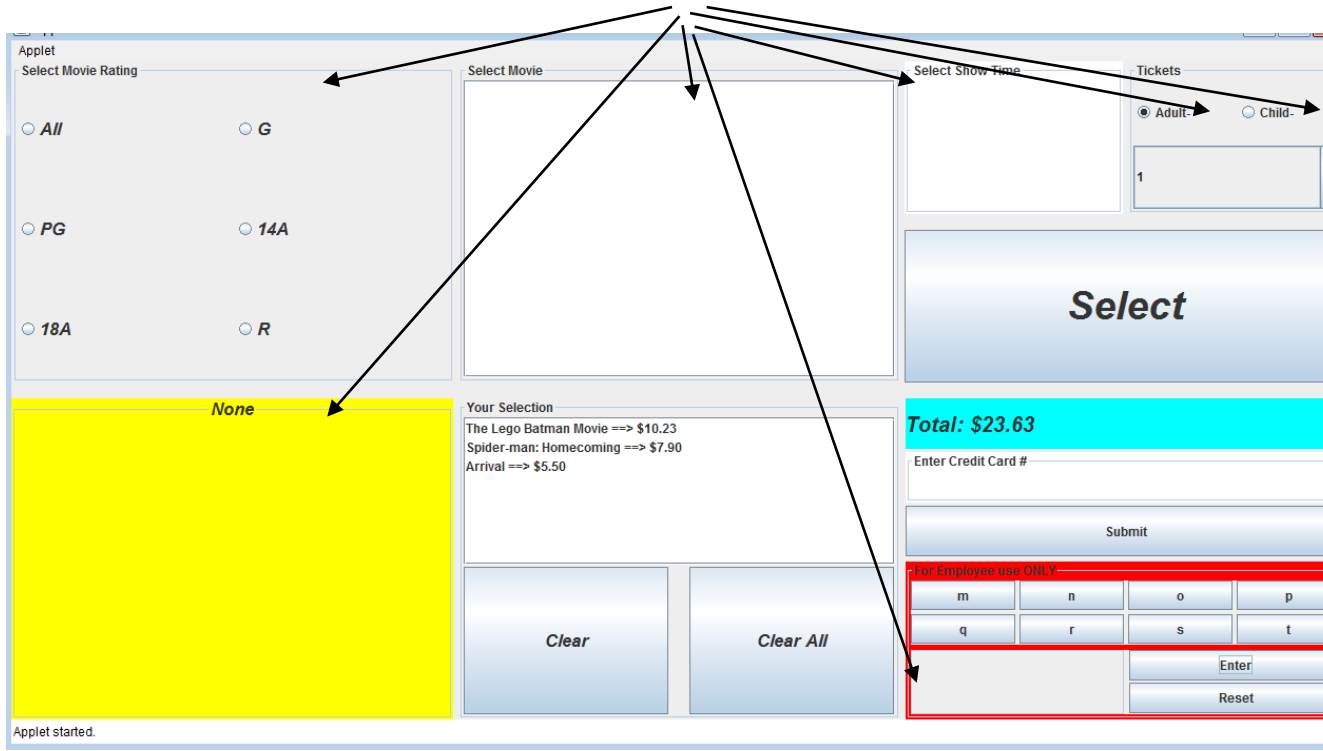
Not Allowed

X WRONG Password, please re-enter

OK
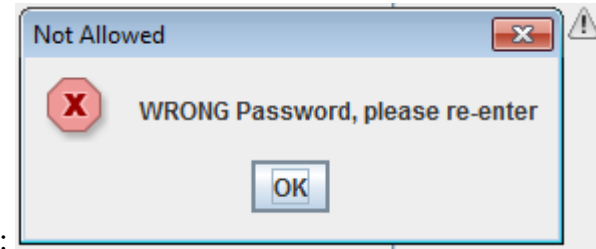
If user enters the **wrong** passcode, then the following error box should appear: and after clicking on "OK", it should **clear** the password field. .

Reset

The clears the JPassword field.
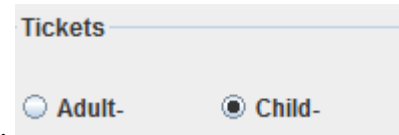
Upon entering the **correct** passcode it **should clear the following components:**

Applet

Select Movie Rating

○ All   ○ G

○ PG   ○ 14A

○ 18A   ○ R

None

Select Movie

Your Selection
The Lego Batman Movie ==> $10.23
Spider-man: Homecoming ==> $7.90
Arrival ==> $5.50

Clear   Clear All

Select Show Time

Select

Total: $23.63

Enter Credit Card #

Submit

Tickets

○ Adult-   ○ Child-

1

For Employee use ONLY

| m | n | o | p |
| q | r | s | t |

Enter

Reset

Applet started.

Note the following:

- The movie rating radio buttons should **ALL** be unchecked.

- The Adult and Child prices are cleared (**NOT** the radio buttons), i.e.
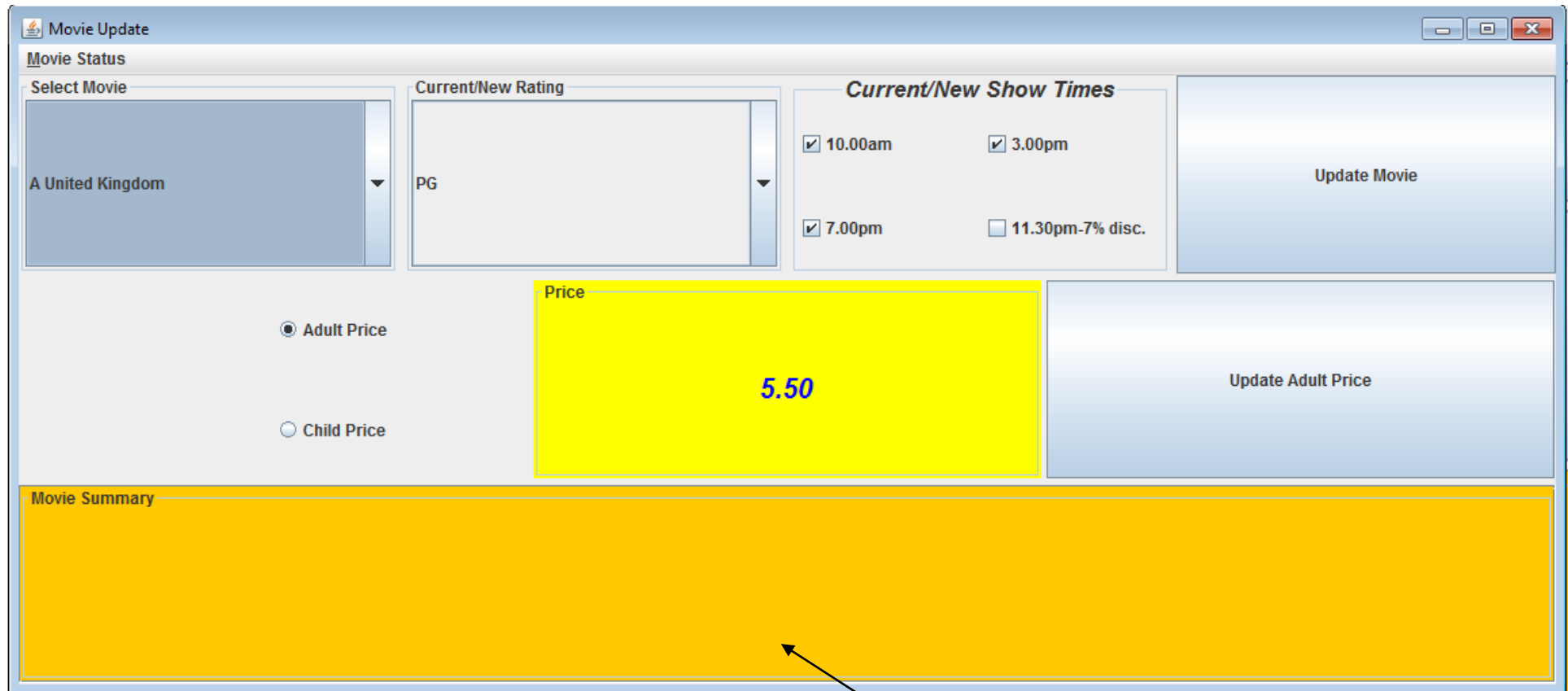
then the following **Movie Update** window appears.

Movie Update Window (Save this part as UpdateFrame.java)

Upon entering the correct password, this will generate a **window** with the following layout and components.

Note, this window is **resizable** BUT the **layout should remain the SAME**, whatever the size of the window, i.e. use **Layout Managers**).

Movie JTextArea,
with scrollbar.
Note, **the font is
Helvetica, bolded,
italics at 14pt**

Functionality

Here the administrator can change the **rating and available show times** for a movie. The **prices** can also be changed. When the Update screen **is first run**, all the available shows are displayed in the **Select Movie JComboBox**, with the **first** entry **already selected**. The corresponding show times for that movie will be displayed by which show time checkbox is selected. The corresponding rating will also be selected in the Current/New Rating JComboBox.

Note that **changes made here should of course be reflected in the applet**.

Changing Rating and Show Times

Here the administrator can change the rating and show times of a movie, i.e. when the admin selected **Blade Runner 2049**, the current movie rating and show times are displayed in their respective components.

Now the admin will change it to the following:

To **update** the changes for this movie, the admin **needs** to click the button (otherwise **NO changes are made**), after which the following dialog box should appear:
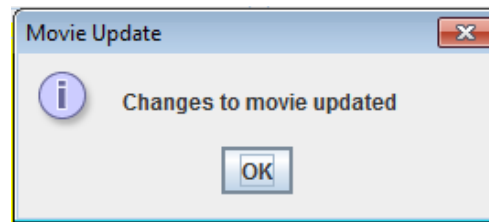
The **Current/New JComboBox** will have the following selections:
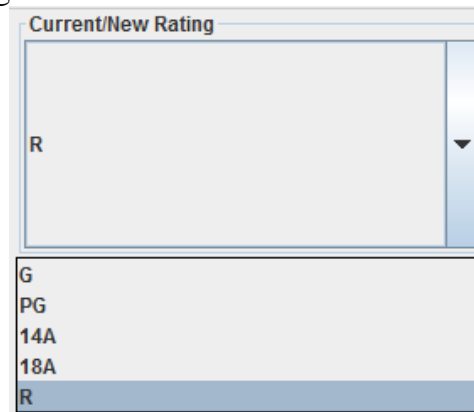
Change Prices

Here the admin can change the Adult and Child prices for **ALL** **Movies** in the text box.
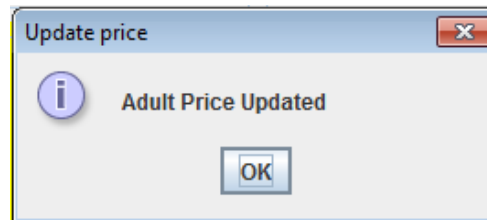

If the admin wants to change the **Adult** price, then he or she needs to click the (note by default this should be already be selected).

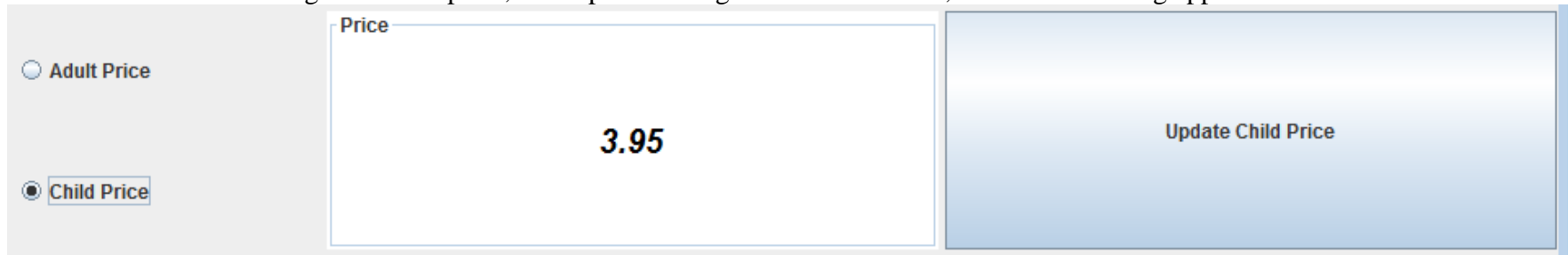Note also the **Update** button label will now say "Update **Adult** Price" , i.e. .

The textbox colours for adult price is as shown above. Again, no changes are made until the admin clicks the corresponding update button, after which the following dialog box appears:

If the admin now wishes to change the **child** price, then upon clicking on ⊙ Child Price , then the following appears:

Note the **colour** change for the Child Price textbox, and also the Update button now says "Update **Child** Price".

As stated earlier for the Adult Price, no changes will be made unless the user clicks the corresponding Update button, after which the following appears:
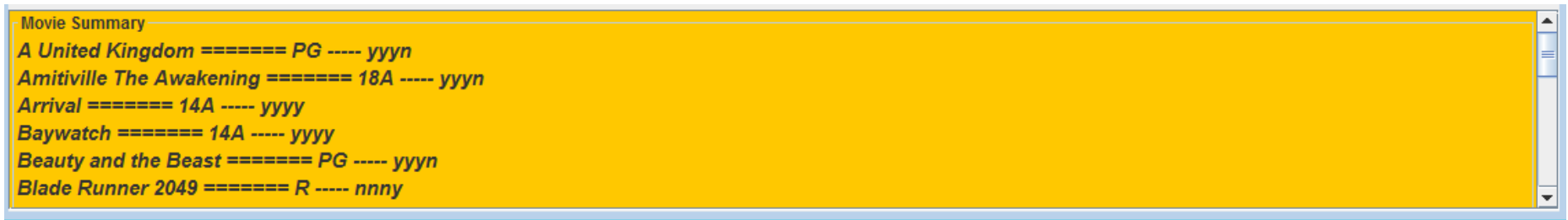
Movie Status Description Menu
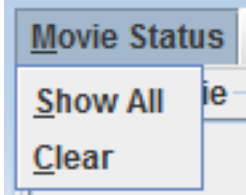
This should have the above selections and **mnemonics**.

- If the administrator selects **Show All** , then it should display all the movies and their respective ratings and show times (indicated by "y" or " "n", so "**yyyn**" means yes for **10.00am, 3.00pm, 7.00pm but no for 11.30pm**) in the **Movie Summary JTextArea box** below, i.e:
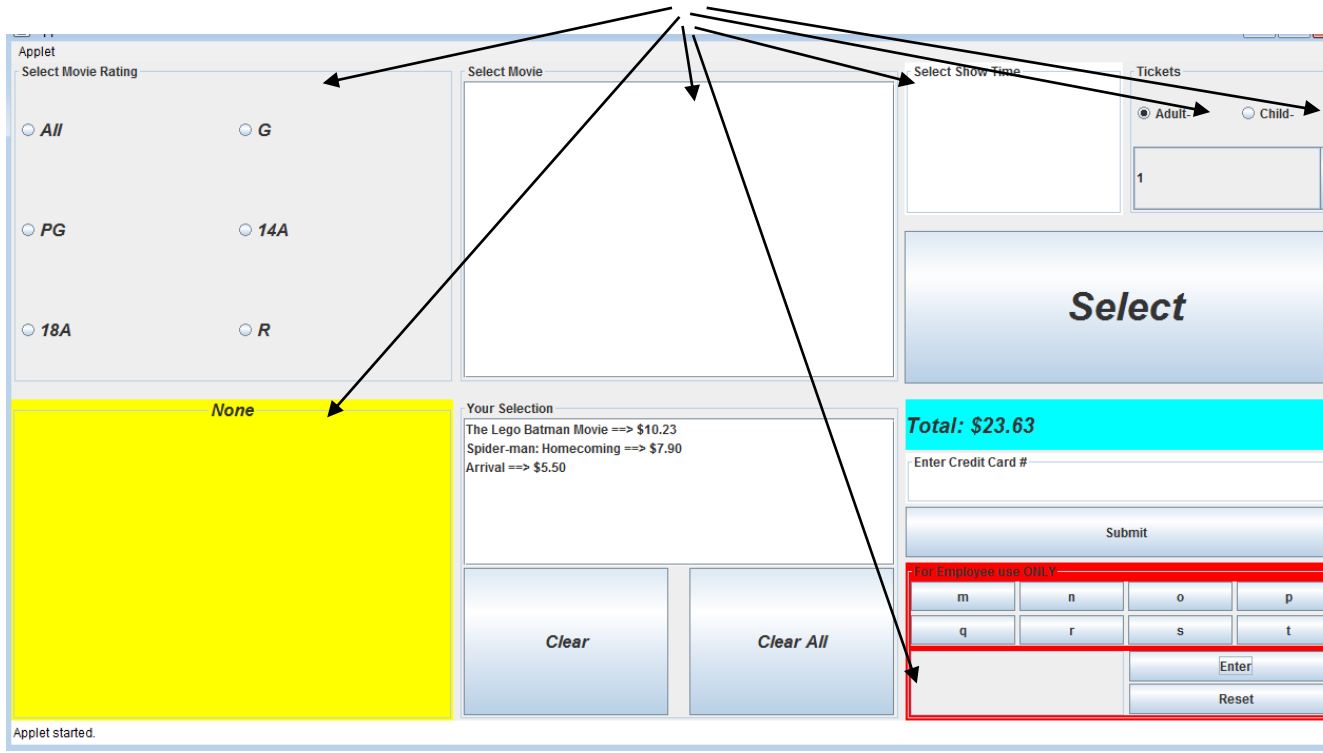

Note, make sure to **clear** the JTextArea box **before** you display again.

- If the user selects **Clear** , then it simply clears Movie Summary JTextArea.

Exiting Movie Update

- Ensure also the following buttons ⬛ do work with this window.

Note: It is **important** that when the admin exits from this Movie Update screen and returns back to the main JApplet, the applet is as shown on page 16, with the indicated GUI components being **cleared, i.e.:**

Applet

Select Movie Rating

○ All   ○ G

○ PG   ○ 14A

○ 18A   ○ R

None

Select Movie

Your Selection
The Lego Batman Movie ==> $10.23
Spider-man: Homecoming ==> $7.90
Arrival ==> $5.50

Clear   Clear All

Select Show Time

Tickets
◉ Adult-   ○ Child-

1

Select

Total: $23.63

Enter Credit Card #

Submit

For Employee use ONLY
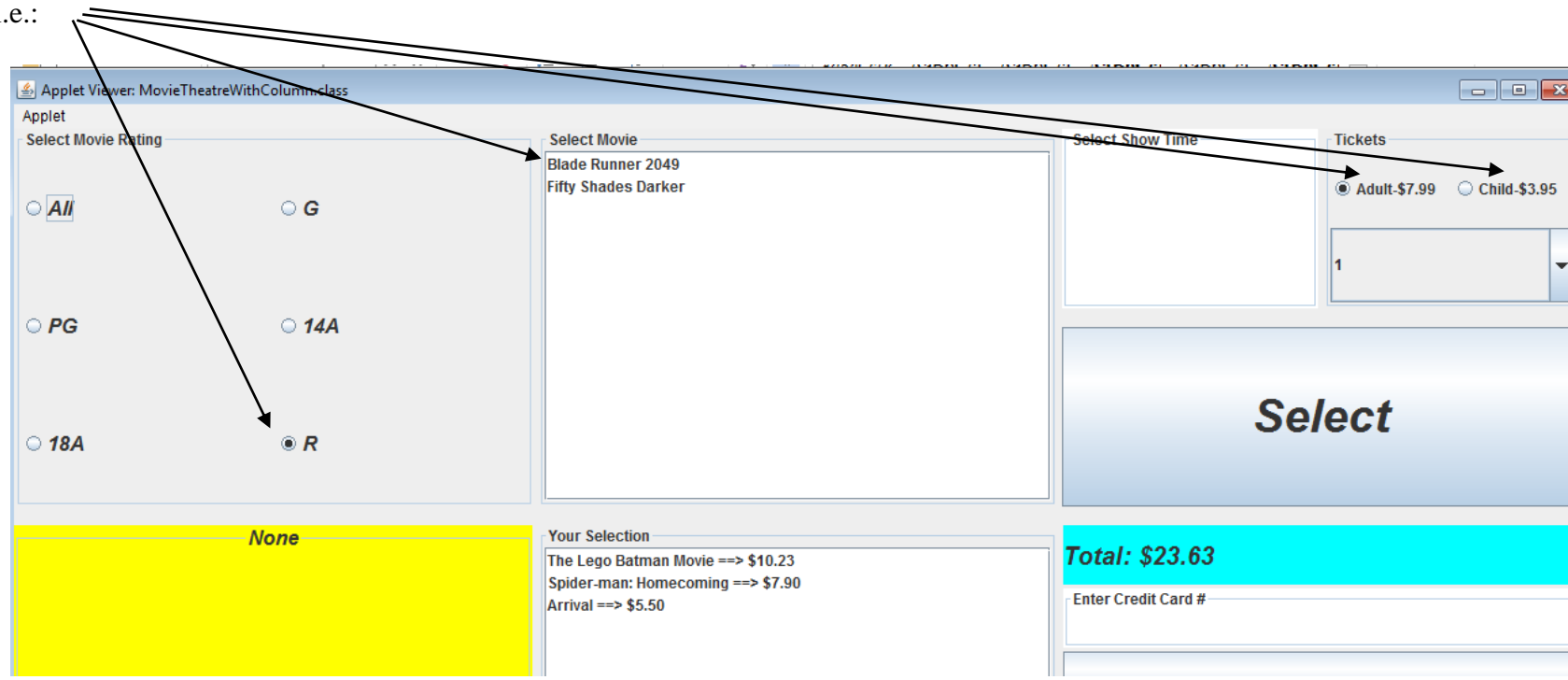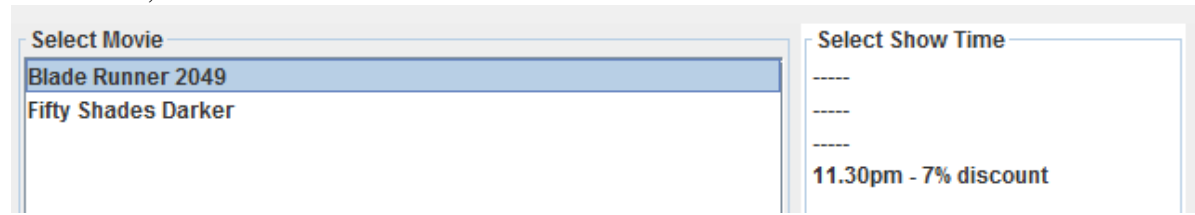| m | n | o | p |
| q | r | s | t |

Enter

Reset

Applet started.

Now, when you are back at the JApplet, as soon as you click on one of the Movie Rating radiobuttons, it should now display the updated prices and movies, i.e.:

And if you click on Blade Runner 2019, **the show times** should be:

Finally, create an **HTML file** (call it **MovieTheatre.html**) to hold this applet. The **background** should be a sky background utilising the sky.gif file.

Note the top part **Your Name Movie Theatre** is from **the HTML file**. Please replace **Your Name** with you **actual name**.

Classes

You must create at least **2 classes** to start off with. These classes are in "**MovieInfo.java**" which will be given to you.

What to Hand in

1. Front cover page with your name, course, assignment number, instructor's name and due date
2. Hardcopy of the program listing
3. Zip up and Save as **csis1275_SecNumberAssign4W2017YourName.zip** and either File Submission (Blackboard) or USB for the .java **source** files, any picture files and the HTML file.

4. The **passcode** for the **Movie Update window**.

MARKS WILL BE LOST IF ANY OF THE ABOVE IS NOT MET OR <u>IF THIS IS NOT YOUR OWN WORK</u> OR IF THE DISK IS NOT READABLE OR PROGRAM NOT COMPLIABLE.