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CS5002-Assignment 4: Data and the DOM

The main requirement of this assignment is producing a JavaScript program that could let the user to select detail information about American movies (from the year 1990 till 2018).

The whole program includes loading and working with external data, displaying the data, and allowing the user to display that data by selecting the given elements.

The design process of the movies.html:

From the last feedback of the last assignment, indentations should be considered to make the whole codes much easier to read, so this time I consider it carefully and use meaningful indentations for better understanding.

To equip the program with a filter-functionality, Firstly, link the given movies.js file by `<script src="movies.js"></script>`, then complete the HTML file by adding two sub sections in the body section: the selecting section (`<div id='selectingSection'>`) and the table section (`<div id='list'>`) which is used to display all the details.

Firstly, the selecting section:

There are three selections: `selectYearStart`, `selectYearEnd`, `selectGenre`; then use three script to populate the options inside each selection.

selectYearStart (set the options from 1900 to 2021)

```
<label for="selectYearStart">Please select a start year: </label>
<select id="selectYearStart"></select>
<script>
  var select = document.getElementById("selectYearStart");
  select.options[select.options.length] = new Option("All");
  for (var i = 1900; i <= 2021; i++) {
    select.options[select.options.length] = new Option(i, i);
  }
</script>
```

selectYearEnd (set the options from 1900 to 2021)

```
<label for="selectYearEnd">Please select an end year: </label>
<select id="selectYearEnd"></select>
<script>
  var select = document.getElementById("selectYearEnd");
  select.options[select.options.length] = new Option("All");
  for (var i = 1900; i <= 2021; i++) {
    select.options[select.options.length] = new Option(i, i);
  }
</script>
```

selectGenre (populate de options from the movie.json file genre content)

```

<label for="selectGenre">Please select a genre: </label>
<select id="selectGenre">
    <!-- Insert genres as options here -->
    <option value="All">All</option>
    <option value="Animated">Animated</option>
    <option value="Family">Family</option>
    <option value="Comedy">Comedy</option>
    <option value="Action">Action</option>
    <option value="Drama">Drama</option>
    <option value="Teen">Teen</option>
    <option value="Romance">Romance</option>
    <option value="Fantasy">Fantasy</option>
    <option value="Political">Political</option>
    <option value="Thriller">Thriller</option>
    <option value="Science Fiction">Science Fiction</option>
    <option value="Crime">Crime</option>
    <option value="Documentary">Documentary</option>
    <option value="Crime">Crime</option>
    <option value="Superhero">Superhero</option>
    <option value="Spy">Spy</option>
    <option value="Adventure">Adventure</option>
    <option value="Historical">Historical</option>
    <option value="Western">Western</option>
    <option value="Historical">Historical</option>
    <option value="Horror">Horror</option>
    <option value="Dance">Dance</option>
    <option value="Performance">Performance</option>
    <option value="Live Action">Live Action</option>
    <option value="Dance">Dance</option>
</select>

```

The design process of the movies.js:

To read the JSON data of the movies from the given file;

Fetching the JSON data of the movies from the local file named ‘movies.json’ by the ‘fetch-then’ method, then write all the code within ‘then’

```

fetch("movies.json")
    .then(response => response.json())

    .then(function(data){
        console.log(data)
    })

```

There are Six more sections of the **js** file.

1. The first one is **initialize-function** which start when the page is on load.

2. The second part is a function that fresh all the previous content of table called **clearAll**. Every time rechoose the option and click the go button, this section runs first to keep the table ready for the next display according to the selected options.

3. The third part is called **userSelectingBar** in which use a if structure to differ the situation whether to run the **displayWholeMovies** or the **displayAccordingSelection** function.

4. The next two section is the main feature function of the code:

- **displayWholeMovies**

firstly, a for loop to sign each value from the JSON file to the variable called movieNew, then display all the inside elements using the movieNew.year/movieNew.title/movieNew.genres/movieNew.cast

- **displayAccordingSelection**

inside the for loop, put a “if” structure to display according to the condition described: Because the **data[i].genres** is a object, what need to be done is to transfer it to **strings**, then use it in the condition statements like below:

JSON.stringify(data[i].genres).includes(document.getElementById("selectGenre").value)

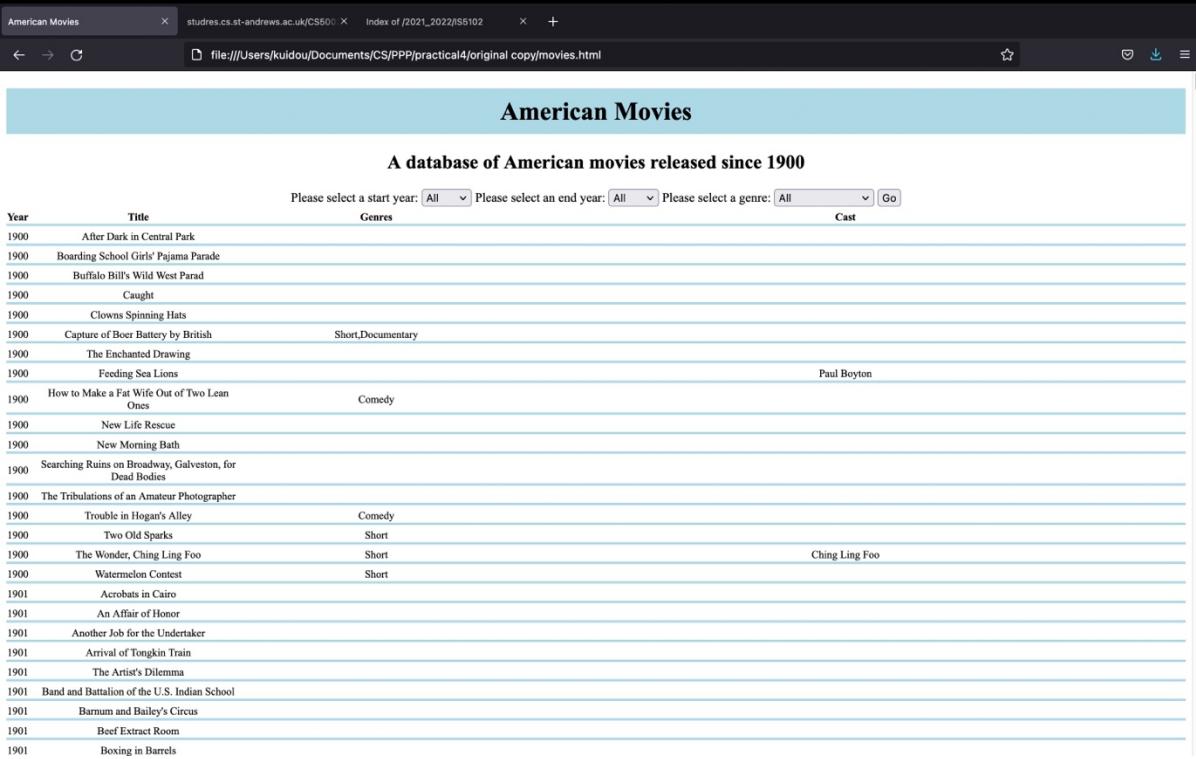
Another thing is to transfer the **data[i].year** to integer by using **parseInt** method before use it as a number in the condition statements.

parseInt(document.getElementById("selectYearEnd").value)

The inputs and outputs of the program:

1. to check if the display all movies function is runnable.

inputs	output
Selected Options: All, All, All	<display all the movies details as below>



American Movies

A database of American movies released since 1900

Please select a start year: All Please select an end year: All Please select a genre: All Go

Year	Title	Genres	Cast
1900	After Dark in Central Park		
1900	Boarding School Girls' Pajama Parade		
1900	Buffalo Bill's Wild West Parade		
1900	Caught		
1900	Clowns Spinning Hats		
1900	Capture of Boat Battery by British	Short, Documentary	
1900	The Enchanted Drawing		
1900	Feeding Sea Lions		Paul Boyton
1900	How to Make a Fat Wife Out of Two Lean Ones	Comedy	
1900	New Life Rescue		
1900	New Morning Bath		
1900	Searching Ruins on Broadway, Galveston, for Dead Bodies		
1900	The Tribulations of an Amateur Photographer		
1900	Trouble in Hogan's Alley	Comedy	
1900	Two Old Sparks	Short	
1900	The Wonder, Ching Ling Foo	Short	Ching Ling Foo
1900	Watermelon Contest	Short	
1901	Acrobats in Cairo		
1901	An Affair of Honor		
1901	Another Job for the Undertaker		
1901	Arrival of Tongkin Train		
1901	The Artist's Dilemma		
1901	Band and Battalion of the U.S. Indian School		
1901	Barnum and Bailey's Circus		
1901	Beef Extract Room		
1901	Boxing in Barrels		

2. to check when the third option is “All”, is it running properly according to the year range.

inputs	output
Selected Options: 1900, 1902, All	<display the movies from 1900 to 1902 details as below>

American Movies			
A database of American movies released since 1900			
Please select a start year: <input type="text" value="1900"/> Please select an end year: <input type="text" value="1902"/> Please select a genre: <input type="text" value="All"/>		Genres <input type="button" value="Go"/>	
Year	Title	Genres	Cast
1900	After Dark in Central Park		
1900	Boarding School Girls' Pajama Parade		
1900	Buffalo Bill's Wild West Parad		
1900	Caught		
1900	Clowns Spinning Hats		
1900	Capture of Boer Battery by British	Short,Documentary	
1900	The Enchanted Drawing		
1900	Feeding Sea Lions		Paul Boyton
1900	How to Make a Fat Wife Out of Two Lean Ones	Comedy	
1900	New Life Rescue		
1900	New Morning Bath		
1900	Searching Ruins on Broadway, Galveston, for Dead Bodies		
1900	The Tribulations of an Amateur Photographer		
1900	Trouble in Hogan's Alley	Comedy	
1900	Two Old Sparks	Short	
1900	The Wonder, Ching Ling Foo	Short	Ching Ling Foo
1900	Watermelon Contest	Short	
1901	Acrobats in Cairo		
1901	An Affair of Honor		
1901	Another Job for the Undertaker		
1901	Arrival of Tongkin Train		
1901	The Artist's Dilemma		
1901	Band and Battalion of the U.S. Indian School		
1901	Barnum and Bailey's Circus		
1901	Beef Extract Room		
1901	Boxing in Barrels		
1901	Branding Hams		

3. when the three options are all selected with the specific contents by the viewers, is this program is running correctly. This is considered as the **core** function of the program, so multiple inputs and outputs are presented as below:

inputs	output
Selected Options: 1900, 1902, comedy	<display the comedy movies from 1900 to 1902 details as below>

American Movies			
A database of American movies released since 1900			
Please select a start year: <input type="text" value="1900"/> Please select an end year: <input type="text" value="1902"/> Please select a genre: <input type="text" value="Comedy"/>		Genres <input type="button" value="Go"/>	
Year	Title	Genres	Cast
1900	How to Make a Fat Wife Out of Two Lean Ones	Comedy	
1900	Trouble in Hogan's Alley	Comedy	

inputs	output
Selected Options: 1902, 1903, documentary	<display the documentary movies from 1902 to 1903 details as below>

American Movies

A database of American movies released since 1900

Please select a start year: | Please select an end year: | Please select a genre: |

Year	Title	Genres	Cast
1902	Burning of Durland's Riding Academy	Documentary,Short	

inputs	output
Selected Options: 1900, 1902, Family	<None. It shows that there is no movie according to the three given options>

American Movies

A database of American movies released since 1900

Please select a start year: 1902 | Please select an end year: 1903 | Please select a genre: Family | Go

Year	Title	Genres	Cast
1923	Boy of Mine	Family,Drama	Ben Alexander,Rockliffe Fellowes,Henry B. Walthall
1924	Peter Pan	Fantasy,Family	Betty Bronson,Ernest Torrence,Virginia Browne Fair
1939	Susannah of the Mounties	Family	Shirley Temple,Randolph Scott,Margaret Lockwood
1940	Pride of the Bowery	Family	East Side Kids,Mary Ainslee
1940	Young as You Feel	Family	Jed Prouty,Spring Byington
1941	Andy Hardy's Private Secretary	Family	Lewis Stone,Mickey Rooney,Kathryn Grayson
1941	Life Begins for Andy Hardy	Family	Lewis Stone,Mickey Rooney,Fay Holden
1943	Lassie Come Home	Family	Roddy McDowall,Donald Crisp,May Whitty
1943	My Friend Flicka	Family	Roddy McDowall,Preston Foster,Rita Johnson
1944	My Pal Wolf	Family	Sharyn Moffett,Jill Esmond,Claire Carleton
1945	The Enchanted Forest	Family	Edmund Lowe,Brenda Joyce
1945	Son of Lassie	Family,Drama	June Lockhart,Peter Lawford
1945	Thunderhead, Son of Flicka	Family,Drama	Roddy McDowall,Preston Foster,Rita Johnson
1946	Black Beauty	Family	Mona Freeman,Richard Denning
1946	Boys' Ranch	Family	Butch Jenkins,James Craig,Dorothy Patrick
1946	Courage of Lassie	Family	Elizabeth Taylor,Catherine McLeod,Frank Morgan
1946	Gallant Bess	Family,Western	Marshall Thompson,George Tobias
1946	The Yearling	Family,Drama	Gregory Peck,Jane Wyman,Claude Jarman Jr.
1947	For the Love of Rusty	Family	Tom Powers,Ann Doran
1948	Green Grass of Wyoming	Family	Peggy Cummins,Charles Coburn

inputs		output
Selected Options: 1900, 2018, family		<display the family movies from 1902 to 2018 details as below>

American Movies

A database of American movies released since 1900

Please select a start year: 1902 | Please select an end year: 2018 | Please select a genre: Family | Go

Year	Title	Genres	Cast
1923	Boy of Mine	Family,Drama	Ben Alexander,Rockliffe Fellowes,Henry B. Walthall
1924	Peter Pan	Fantasy,Family	Betty Bronson,Ernest Torrence,Virginia Browne Fair
1939	Susannah of the Mounties	Family	Shirley Temple,Randolph Scott,Margaret Lockwood
1940	Pride of the Bowery	Family	East Side Kids,Mary Ainslee
1940	Young as You Feel	Family	Jed Prouty,Spring Byington
1941	Andy Hardy's Private Secretary	Family	Lewis Stone,Mickey Rooney,Kathryn Grayson
1941	Life Begins for Andy Hardy	Family	Lewis Stone,Mickey Rooney,Fay Holden
1943	Lassie Come Home	Family	Roddy McDowall,Donald Crisp,May Whitty
1943	My Friend Flicka	Family	Roddy McDowall,Preston Foster,Rita Johnson
1944	My Pal Wolf	Family	Sharyn Moffett,Jill Esmond,Claire Carleton
1945	The Enchanted Forest	Family	Edmund Lowe,Brenda Joyce
1945	Son of Lassie	Family,Drama	June Lockhart,Peter Lawford
1945	Thunderhead, Son of Flicka	Family,Drama	Roddy McDowall,Preston Foster,Rita Johnson
1946	Black Beauty	Family	Mona Freeman,Richard Denning
1946	Boys' Ranch	Family	Butch Jenkins,James Craig,Dorothy Patrick
1946	Courage of Lassie	Family	Elizabeth Taylor,Catherine McLeod,Frank Morgan
1946	Gallant Bess	Family,Western	Marshall Thompson,George Tobias
1946	The Yearling	Family,Drama	Gregory Peck,Jane Wyman,Claude Jarman Jr.
1947	For the Love of Rusty	Family	Tom Powers,Ann Doran
1948	Green Grass of Wyoming	Family	Peggy Cummins,Charles Coburn

4. the next few testing is the condition of inputs with ‘All’ but not all three are ‘All’

inputs	output
Selected Options: All, All, Comedy	<display all the Comedy movies details as below>

inputs	output
Selected Options: All, All, Crime	<display all the Crime movies details as below>

American Movies							
A database of American movies released since 1900							
Please select a start year:		All	Please select an end year:	All	Please select a genre:	Crime	Go
Year	Title	Genres	Cast				
1906	The Automobile Thieves	Short,Crime,Drama	J. Stuart Blackton,Florence Lawrence				
1906	From Leadville to Aspen: A Hold-Up in the Rockies	Short,Action,Crime,Western					
1908	Money Mad	Crime	Charles Ingle,George Gebhardt				
1913	The Evidence of the Film	Crime	William Garwood,Marie Eline				
1914	The Combination of the Safe	Crime,Drama	Earle Foxe				
1914	The Master Mind	Crime,Drama	Edmund Breese,Fred Montague,Jane Darwell				
1915	Regeneration	Crime,Drama	Rockliffe Fellowes,Anna Q. Nilsson				
1916	The Twinkler	Crime	William Russell,Charlotte Burton				
1916	Where Are My Children?	Crime,Drama	Tyrone Power Sr,Juan de la Cruz				
1917	The Bad Boy	Crime,Drama	Robert Harron,Richard Cummings				
1917	On Record	Crime,Drama	Mae Murray,Tom Forman				
1918	Beauty and the Rogue	Crime,Drama	Mary Miles Minter,Allan Forrest				
1919	Gates of Brass	Crime	Frank Keenan,Lois Wilson				
1919	Hearts Asleep	Crime	Bessie Barriscale,Vola Vale				
1919	The House of Intrigue	Crime	Mignon Anderson,Lloyd Bacon				
1919	The Imp	Crime	Elsie Janis,Joe King				
1919	The Joyous Liar	Comedy,Crime	J. Warren Kerrigan,Lillian Walker				
1919	The Lone Wolf's Daughter	Crime,Thriller	Bertram Grassby,Louise Glauum				
1919	Loot	Crime	Ora Carew,Joseph W. Girard				
1919	Love Is Love	Crime	Albert Ray,Elinor Fair				
1919	Love's Prisoner	Crime,Drama	Olive Thomas,Ann Kroman				
1919	The Man Beneath	Crime,Drama	Sessue Hayakawa,Helen Jerome Eddy,John Gilbert				
1919	Mary Regan	Crime	Anita Stewart,Frank Mayo				
1919	The Poppy Girl's Husband	Crime	William S. Hart,Junta Hansen				
1919	A Rogue's Romance	Crime,Drama	Earle Williams,Harry von Meter				
1919	Thieves	Crime	Gladys Brockwell,William Scott				

inputs	output
Selected Options: All, All, Performance	<display all the Performance movies details as below>

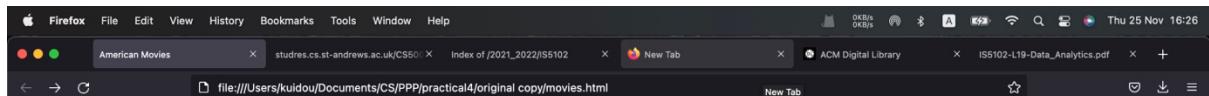
American Movies							
A database of American movies released since 1900							
Please select a start year:		All	Please select an end year:	All	Please select a genre:	Performance	Go
Year	Title	Genres	Cast				
1976	The Song Remains the Same	Performance	Led Zeppelin				
1978	Renaldo and Clara	Performance	Bob Dylan,Joan Baez,Harry Dean Stanton				
1979	Baby Snakes	Performance	Frank Zappa,Dale Bozzio				
1980	Gilda Live	Performance	Gilda Radner				
1982	Let's Spend the Night Together	Performance	The Rolling Stones				
1987	Shake! Otis at Monterey	Performance	Otis Redding				
1987	Sign of the Times	Performance	Prince				
1988	Big Time	Performance	Tom Waits				
1990	Without You I'm Nothing	Performance	Sandra Bernhard				
1996	Ticket to New Year's	Performance	Grateful Dead				
1997	Grateful Dead: Downhill from Here	Performance	The Grateful Dead				
2003	Dysfunctional Family	Performance	Eddie Griffin				
2006	Awesome; I Fuckin' Shot That!	Performance	Beastie Boys				
2006	Neil Young: Heart of Gold	Performance	Neil Young				
2008	Hannah Montana & Miley Cyrus: Best of Both Worlds Concert	Performance	Miley Cyrus,Jonas Brothers,Kenny Ortega,Billy Ray Cyrus				
2008	U2 3D	Performance	Bono,The Edge,Adam Clayton,Larry Mullen, Jr.				
2009	Jonas Brothers: The 3D Concert Experience	Performance	Jonas Brothers,Demi Lovato,Taylor Swift,Christa B. Allen				
2011	Glee: The 3D Concert Movie	Performance	Dianna Agron,Chris Colfer,Darren Criss,Ashley Fink,Kevin McHale,Lea Michele,Cory Monteith,Heather Morris,Chord Overstreet,Amber Riley,Naya Rivera,Mark Salling,Harry Shum, Jr.,Jenna Ushkowitz,Gwyneth Paltrow				
2011	Justin Bieber: Never Say Never	Performance,Documentary	Chronicles the life of teen sensation Justin Bieber, and his career. Shows concert footage of his 2010 My World Tour.				
2012	Katy Perry: Part of Me 3D	Performance,Documentary	Chronicling the life and career of singer,Katy Perry. Scenes are taken from the 2011 California Dreams Tour,at Staples Center,Los Angeles				
2013	Don't Stop Believin': Everyman's Journey	Performance,Documentary	A look at American rock band,Journey, and its new lead vocalist,Arnel Pineda. Shows scenes from their,Revelation Tour,in the United States and Pineda's homecoming in the Philippines.				
2013	One Direction: This Is Us	Performance,Documentary	Chronicling the lives of British boy band,One Direction,while on tour.				

inputs	output
Selected Options: 1901, 1901, All	<display all year 1901 movies details as below>



The screenshot shows a web browser window with multiple tabs open. The active tab displays a table titled "American Movies" with the subtitle "A database of American movies released since 1900". The table has columns for Year, Title, Genres, and Cast. The data shows numerous movies from 1901, such as "Acrobats in Cairo", "An Affair of Honor", and "Arrival of Tongkin Train". The browser interface includes a search bar at the top and standard navigation buttons.

inputs	output
Selected Options: All, 1916, Fantasy	<display all Fantasy movies before 1916 as below>



American Movies

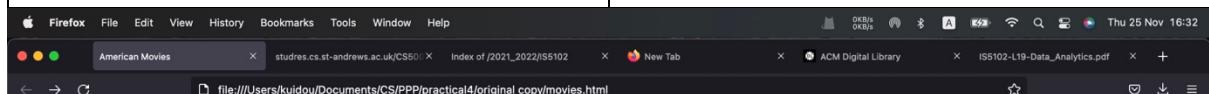
A database of American movies released since 1900

Please select a start year: Please select an end year: Please select a genre:

Year	Title	Genres	Cast
1908	The Fairylogue and Radio-Plays	Fantasy	
1910	Pocahontas	Short,Fantasy	Anna Rosemond,George Barnes,Frank H. Crane
1914	Cinderella	Fantasy,Drama	Mary Pickford,Owen Moore,Isobel Vernon
1914	His Majesty, the Scarecrow of Oz	Fantasy	Violet MacMillan,Pierre Couderc
1914	The Magic Cloak of Oz	Fantasy,Drama	Juanita Hansen,Violet MacMillan,Mildred Harris
1914	Neptune's Daughter	Fantasy	Annette Kellerman,William E. Shay,William Welsh
1914	The Patchwork Girl of Oz	Fantasy,Drama	Violet MacMillan,Pierre Couderc



inputs	output
Selected Options: 1900, All, Political	<display all Political movies after 1916 as below>



American Movies

A database of American movies released since 1900

Please select a start year: Please select an end year: Please select a genre:

Year	Title	Genres	Cast
1961	Ada	Political,Drama	Susan Hayward,Dean Martin
1962	The Manchurian Candidate	Political,Thriller	Frank Sinatra,Janet Leigh,Laurence Harvey,Angela Lansbury,Leslie Parrish,James Gregory,Henry Silva,John McGiver
2005	Syriana	Political,Thriller	George Clooney,Matt Damon,Jeffrey Wright
2007	Breach	Political,Thriller	Chris Cooper,Ryan Phillippe,Laura Linney
2009	State of Play	Political,Thriller	Russell Crowe,Ben Affleck,Rachel McAdams,Helen Mirren
2010	Casino Jack	Political,Drama,Thriller	Kevin Spacey,Barry Pepper,Kelly Preston,Jon Lovitz,Rachelle Lefevre,Daniel Kash,Graham Greene,Maury Chaykin
2011	Atlas Shrugged: Part I	Drama,Political,Thriller	Taylor Schilling,Grant Bowler,Matthew Marsden,Edi Gathegi,Graham Beckel,Jsu Garcia,Jon Polito,Michael Lerner
2011	The Ides of March	Political,Drama,Political,Thriller	Ryan Gosling,George Clooney,Philip Seymour Hoffman,Paul Giamatti,Marisa Tomei,Jeffrey Wright,and,Evan Rachel Wood
2012	Lincoln	Biography,Political,Drama	Daniel Day-Lewis,Sally Field,David Strathairn,Joseph Gordon-Levitt,James Spader,Hal Holbrook,Tommy Lee Jones
2012	The Reluctant Fundamentalist	Political,Thriller	Riz Ahmed,Kate Hudson,Liev Schreiber,Kiefer Sutherland,Om Puri,Shabana Azmi
2013	The Company You Keep	Political,Thriller	Robert Redford,Shia LaBeouf,Julie Christie,Sam Elliott,Jackie Evancho,Brendan Gleeson,Terrence Howard,Richard Jenkins,Anna Kendrick,Brit Marling,Stanley Tucci,Nick Nolte,Chris Cooper,Susan Sarandon
2013	Knife Fight	Political,Thriller	Rob Lowe,Julie Bowen,Saffron Burrows,Jamie Chung,David Harbour,Eric McCormack,Jennifer Morrison,Carrie-Anne Moss,Richard Schiff,Amanda Crew,Shirley Manson,Davey Havok
2014	America: Imagine the World Without Her	Political,Documentary	Don Taylor,Michelle Swink,Dinesh D'Souza,Josh Bonzio



Self-reflection and challenges:

At the first stage of the coding and testing, movies-small.json is used to test. Because of its little volume there are multiple times of no results at all. And at first, I thought something is wrong so the code cannot run properly, but after change the JSON file by movies.json. It has results right away.

This time, I carefully use the indentations to show the clear understandable structure. at the same time, I use comments to describe each function for making it more readable as well.