

Report

Design

Step1:

Use fetch function to import json data in to js file. Besides, In the fetch(), I set up the two anchors: back and next, when they are pressed, when the back anchor is clicked, the website will show the 10 former rows of the rows displayed now. When the next anchor is clicked, the website shows the next then rows ranked after rows displayed now.

Step2:

construct a function named initialise, when the web page is loaded, it is called, when it is called, it add options of start year option box and end year option box which can be used to by users to select the movies of the certain years. I respectively use for loop to finish it. Besides, I write two event handlers to make sure when users click on the button or select the options in the pull down lists, system can be triggered to make selection.

Step3:

Define variable page = 1, which means the current page is the first page. Variable lastPageIndex = 1, Respectively construct function next() and prev(). When next() is called, make page += 1, lastPageIndex += 10. which means the last row's index in the last page += 10. Then call rebindData() function, this function first call deleteAllData() function, it uses for if iterated loop to go through all the rows of table and delete them, I use if statement to make the first row is not deleted. Then the function showAllData(data.slice(lastPageIndex, (page * pageSize) + 1)) is called, it shows the several rows of the selected results on the web page. Then a function named extract is called. It gets the the selected value of the element selection and gets user's input.

When the function prev() is called. The other procedures are the same as next() except for page should be reduced by one and lastPageIndex should be reduced by ten.

Step4:

There is also a movie genre option box in website, so I construct a function named genreoptions to add options to it, I use iterated for loop to extract all movies' genres in json data, and put them into a new set, because set only store values that unique, so after the for loops finish, it only contains values that are different from others. Use this set's values to be the element options' values.

Step5:

Construct a function named showAllData, it can insert rows into the table that shows the information of the movies. When it is triggered, it will build up a row and insert cells into the row and then make the cells' innerText is the content extracted from the json data. There is a for loop to make sure this process is repeated until all the movies' information is shown on the cell. It is worth mentioning that because some

movies' genere and cast is empty in json data, so when I first executed my codes, the website reported an error occurred, then I found that there should be a if statement to make sure when the extracted value is null, the cell should show something.

I add an column showing the website's wiki link, here I create a new function named create Link, because all the movies' wiki URL have similar structure, the former text of them all all same, so when called, it create a link and the link's href is fixed text add the movies's name.

Step6:

Construct a function named selectGenreChang(), it firstly call rebindData() to get the current page's rows when there is no other limitations. Then it uses if statement to judge if the selected value is "All", if so, it shows data as usual, if not, it then uses for if loop to judge if the selected value is same as the every movie's genres.

Step7:

When the selected value of the year pull down lists changes, the function judging() is called. This function also call rebindData() first, and for every selected rows, it judges if the movie's year is not in the interval between start year and end year. If so, it will delete this row.

Step6:

When the search button is pressed, the function searching() is called. It calls the function rebindData() and judging(), the function judging is called is because the searched data should be base on the data selected by selected value in the year lists. Then it goes through the remaining rows to see if the inputed string is a substring of one movie's title or cast. If so, remains the row, otherwise, the row will be deleted.

Step7:

Add some small functions.

Check

When the web page is opened, it is shown as following (using movies-small.json):

American Movies

A database of American movies released since 1900

Please select a start year: 1900 ▾ Please select an end year: 2018 ▾ Please select a genre: All ▾ select Please input the movie: Search

Year	Title	Genres	Cast	Wiki Link
1900	After Dark in Central Park			https://en.wikipedia.org/wiki/After%20Dark%20in%20Central%20Park
1980	Airplane!	Comedy	Robert Hays, Julie Hagerty, Leslie Nielsen, Peter Graves, Robert Stack, Lloyd Bridges, Kareem Abdul-Jabbar	https://en.wikipedia.org/wiki/Airplane!
1990	The Adventures of Ford Fairlane	Comedy	Andrew Dice Clay, Wayne Newton, Priscilla Presley, Lauren Holly, Maddie Corman, Ed O'Neill, Morris Day, Tone Loc, Gilbert Gottfried, Robert Englund	https://en.wikipedia.org/wiki/The%20Adventures%20of%20Ford%20Fairlane
1990	Sibling Rivalry	Comedy	Kirstie Alley, Scott Bakula, Bill Pullman, Jami Gertz, Sam Elliott, Carrie Fisher	https://en.wikipedia.org/wiki/Sibling%20Rivalry
1991	The Last Boy Scout	Action	Bruce Willis, Damon Wayans, Chelsea Field, Noble Willingham, Taylor Negron, Danielle Harris, Halle Berry	https://en.wikipedia.org/wiki/The%20Last%20Boy%20Scout
1991	Liebestraum	Drama	Bill Pullman, Kevin Anderson, Kim Novak	https://en.wikipedia.org/wiki/Liebestraum
2011	The Art of Getting By	Romance, Comedy, Teen	Freddie Highmore, Emma Roberts, Michael Angarano, Elizabeth Reaser, Sam Robards, Alicia Silverstone, Rita Wilson, Blair Underwood	https://en.wikipedia.org/wiki/The%20Art%20of%20Getting%20By
2011	Arthur	Comedy	Russell Brand, Helen Mirren, Greta Gerwig, Jennifer Garner, Nick Nolte, Luis Guzmán	https://en.wikipedia.org/wiki/Arthur
2011	Arthur Christmas	Animated, Family, Fantasy	James McAvoy, Hugh Laurie, Bill Nighy, Jim Broadbent, Imelda Staunton, Ashley Jensen, Will Sasso, Ramona Marquez, Iain McKee, Joan Cusack, Robbie Coltrane, Michael Palin, Dominic West, Andy Serkis	https://en.wikipedia.org/wiki/Arthur%20Christmas
2011	Atlas Shrugged: Part I	Drama, Political, Thriller	Taylor Schilling, Grant Bowler, Matthew Marsden, Edi Gathegi, Graham Beckel, Jsu Garcia, Jon Polito, Michael Lerner	https://en.wikipedia.org/wiki/Atlas%20Shrugged:%20Part%20I

When I respectively select 1990 and 1990 in the first and second pull-down list, then the website is show as following (using movies.json):

American Movies

A database of American movies released since 1900

Please select a start year: 1900 ▾ Please select an end year: 1900 ▾ Please select a genre: All ▾ select Please input the movie: Search

Year	Title	Genres	Cast	Wiki Link
1900	Boarding School Girls' Pajama Parade			https://en.wikipedia.org/wiki/Boarding%20School%20Girls'%20Pajama%20Parade
1900	Buffalo Bill's Wild West Parad			https://en.wikipedia.org/wiki/Buffalo%20Bill's%20Wild%20West%20Parad
1900	Caught			https://en.wikipedia.org/wiki/Caught
1900	Clowns Spinning Hats			https://en.wikipedia.org/wiki/Clowns%20Spinning%20Hats
1900	Capture of Boer Battery by British	Short, Documentary		https://en.wikipedia.org/wiki/Capture%20of%20Boer%20Battery%20by%20British
1900	The Enchanted Drawing			https://en.wikipedia.org/wiki/The%20Enchanted%20Drawing
1900	Feeding Sea Lions		Paul Boyton	https://en.wikipedia.org/wiki/Feeding%20Sea%20Lions
1900	How to Make a Fat Wife Out of Two Lean Ones	Comedy		https://en.wikipedia.org/wiki/How%20to%20Make%20a%20Fat%20Wife%20Out%20of%20Two%20Lean%20Ones
1900	New Life Rescue			https://en.wikipedia.org/wiki/New%20Life%20Rescue
1900	New Morning Bath			https://en.wikipedia.org/wiki/New%20Morning%20Bath

[back](#) [next](#)

When I input “Sea” in the input bar and click the button, then the website is shown as following:

American Movies

A database of American movies released since 1900

Please select a start year: 1900 ▾ Please select an end year: 2018 ▾ Please select a genre: All ▾ select Sea Search

Year	Title	Genres	Cast	Wiki Link
1900	Feeding Sea Lions		Paul Boyton	https://en.wikipedia.org/wiki/Feeding%20Sea%20Lions

[back](#) [next](#)

When I select “Comedy” in the genre pull down list, then the website is shown as following (using movies-small.json):

American Movies

A database of American movies released since 1900

Please select a start year: 1900 ▾ Please select an end year: 2018 ▾ Please select a genre: Comedy ▾ select Please input the movie: Search

Year	Title	Genres	Cast	Wiki Link
1980	Airplane!	Comedy	Robert Hays, Julie Hagerty, Leslie Nielsen, Peter Graves, Robert Stack, Lloyd Bridges, Kareem Abdul-Jabbar	https://en.wikipedia.org/wiki/Airplane!
1990	The Adventures of Ford Fairlane	Comedy	Andrew Dice Clay, Wayne Newton, Priscilla Presley, Lauren Holly, Maddie Corman, Ed O'Neill, Morris Day, Tone Loc, Gilbert Gottfried, Robert Englund	https://en.wikipedia.org/wiki/The%20Adventures%20of%20Ford%20Fairlane
1990	Sibling Rivalry	Comedy	Kirstie Alley, Scott Bakula, Bill Pullman, Jami Gertz, Sam Elliott, Carrie Fisher	https://en.wikipedia.org/wiki/Sibling%20Rivalry
2011	Arthur	Comedy	Russell Brand, Helen Mirren, Greta Gerwig, Jennifer Garner, Nick Nolte, Luis Guzmán	https://en.wikipedia.org/wiki/Arthur
2011	Bad Teacher	Comedy	Cameron Diaz, Jason Segel, Justin Timberlake, Lucy Punch, John Michael Higgins	https://en.wikipedia.org/wiki/Bad%20Teacher

[back](#) [next](#)

When I respectively select 1940 and 2000 in the first and second pull-down list, input “arthur” in the input bar, then the website is show as following (using movies-small.json):

American Movies

A database of American movies released since 1900

Please select a start year: 1940 ▾ Please select an end year: 2018 ▾ Please select a genre: All ▾ select Arthur Search

Year	Title	Genres	Cast	Wiki Link
2011	Arthur	Comedy	Russell Brand, Helen Mirren, Greta Gerwig, Jennifer Garner, Nick Nolte, Luis Guzmán	https://en.wikipedia.org/wiki/Arthur
2011	Arthur Christmas	Animated, Family, Fantasy	James McAvoy, Hugh Laurie, Bill Nighy, Jim Broadbent, Imelda Staunton, Ashley Jensen, Will Sasso, Ramona Marquez, Iain McKee, Joan Cusack, Robbie Coltrane, Michael Palin, Dominic West, Andy Serkis	https://en.wikipedia.org/wiki/Arthur%20Christmas

[back](#) [next](#)

Difficulty

The major difficulty I met is I didn't know how to use the fetch function, I haven't use it before, I didn't know if I should put function searching(data) and judging(data) into .then(data =>{ }) statement in the beginning, after several experiments, I found it is right to calling these two function in the fetch.

Another difficulty is when I tried executing the codes, an error occurred reminding me that document.getElementById("movieTable") is undefined, I checked my js codes for a long time but couldn't found where I made mistake, finally, I found that it is because in the html file, when I defined the id value of the table, I forgot to write the quotation marks. This mistake teaches me a lesson, when writing the codes, we should concentrate much on the codes, otherwise we could make small mistakes that need us much more time that writing codes to debug.

Another difficulty is in the beginning, I wrote the for of loops in the codes because I think it is more concise, but when I ran the codes, website reported an error, I spent a long time to debug, finally, I found the reason is the for of loop isn't usable to all arrays, this json array is made up by objects, in this situation, the for of loop is not applicable.