**Question 2 (12 marks total), Ruth Muleya**

**2.1 Array Methods:**

***unshift():***

The unshift() method is used to add one or more elements to the beginning of an array. It modifies the original array and returns the new length of the array.

***shift():***

The shift() method is used to remove the first element from an array. It modifies the original array and returns the removed element.

***split():***

The split() method is used to split a string into an array of substrings based on a specified delimiter. It does not modify the original string but returns a new array.

**Example using “CFGdegree":**

*// Initial array representing CFGdegree streams*

let cfgDegrees = ['Software Engineering', 'Full Stack Developer', 'Product Management', 'Data'];

console.log(cfgDegrees)

*// Using unshift() to add a new degree at the beginning*

cfgDegrees.unshift('Artificial Intelligence');

console.log('Result after unshift:' , cfgDegrees)

// Result: ['Artificial Intelligence', 'Software Engineering', 'Full Stack Developer', 'Product Management', 'Data']

*// Using shift() to remove the first degree*

let removedDegree = cfgDegrees.shift();

console.log('Removed Degree:', removedDegree)

console.log('Result After Shift:', cfgDegrees )

// Result: removedDegree = 'Artificial Intelligence', cfgDegrees = ['Software Engineering', 'Full Stack Developer', 'Product Management', 'Data']

*// Using split() to split a string into an array*

let degreeString = 'Software Engineering,Full Stack Developer,Product Management,Data';

let degreeArray = degreeString.split(',');

console.log('Result After Split:', degreeArray);

***Console:***

// [object Array] (4)

["Software Engineering","Full Stack Developer","Product Management","Data"]

"Result after unshift:" // [object Array] (5)

["Artificial Intelligence","Software Engineering","Full Stack Developer","Product Management","Data"]

"Removed Degree:" "Artificial Intelligence"

"Result After Shift:" // [object Array] (4)

["Software Engineering","Full Stack Developer","Product Management","Data"]

"Result After Split:" // [object Array] (4)

["Software Engineering","Full Stack Developer","Product Management","Data"]

*CodePen link: https://codepen.io/RuthMul/pen/GRLZjaP*

**2.2 Object Methods:**

***Object Methods:***

Object methods are functions that are properties of an object. They can be defined as functions assigned to object properties.

**Example using “Programming Languages”:**

*// Object representing programming languages*

let programmingLanguages = {

language1: ‘JavaScript',

language2: 'Python',

language3: 'Java',

displayLanguages: function() {

console.log(`Languages: ${this.language1}, ${this.language2}, ${this.language3}`); } };

*// Calling the object method to display languages*

programmingLanguages.displayLanguages();

***Console:***

“Languages: JavaScript, Python, Java”

*CodePen link: https://codepen.io/RuthMul/pen/GRLZjaP*

**2.3 DOM Events:**

**onmouseover Event:** The onmouseover event is triggered when the mouse pointer enters the specified element. It is commonly used to provide feedback or initiate actions when a user hovers over an element.

**Other DOM Events:**

**onclick Event:** The onclick event is triggered when a user clicks on a specified element. It is often used to execute a function or perform an action when a user interacts with a clickable element.

**onchange Event:** The onchange event is triggered when the value of an input element changes. It is commonly used with form elements like dropdowns or input fields to perform actions when the user makes a selection or enters new data.

These are just a few examples, and there are many other DOM events that can be used to handle user interactions on a web page.