Q1-Object.keys():

Description: Returns an array of the keys of the mentioned object.

Syntax: Object.keys(obj)

Object.values():

Description: Returns an array of the values of the keys that the specific object has.

Syntax: Object.values(obj)

Object.entries():

Description: Returns an array of (key, value) pairs of that object.

Syntax: Object.entries(obj)

Object.assign():

Description: Merges the second object into the first. Overwrites existing keys in obj1 with matching keys in obj2.

Syntax: Object.assign(obj1, obj2)

Object.freeze():

Description: Freezes the object, preventing addition or removal of properties.

Syntax: Object.freeze(obj)

Object.seal():

Description: Seals an object, allowing existing property edits but disallowing new property additions.

Syntax: Object.seal(obj)

Object.hasOwnProperty():

Description: Checks if the object contains a property with the given name.

Syntax: person.hasOwnProperty('name')

Object.defineProperty():

Description: Defines or modifies a property directly on an object and returns the object.

Syntax: Object.defineProperty(obj, 'property1', {value: 42, writable: false})

Object.getOwnPropertyNames():

Description: Returns an array of all properties.

Syntax: Object.getOwnPropertyNames(obj)

Object.is():

Description: Compares values more accurately than the === operator.

Syntax: Object.is(obj1,obj2)

Q2 - Array Methods:

arr.push():

Description: Adds an element to the end of the array and returns the new length.

arr.pop():

Description: Removes the last element of the array and returns the removed element.

arr.shift():

Description: Removes the first element of the array and returns it, shifting subsequent elements.

arr.unshift():

Description: Adds an element to the start of the array, shifting subsequent elements.

arr.splice(arg1, arg2, arg3):

Description: Modifies the array by removing or replacing elements. Returns the removed elements.

arr.concat():

Description: Concatenates two arrays.

arr.slice():

Description: Extracts a section of an array and returns a new array without modifying the original array.

Array.indexOf():

Description: Returns the index of the first occurrence of the given element.

arr.join():

Description: Converts array elements into a string separated by a specified parameter.

arr.includes():

Description: Checks if the element is in the array.

Q3 - Closure and Lexical Environment Example:

function outerFunction() {

const outerVar = 'I am from the outer function';

function innerFunction() {

console.log(outerVar);

}

return innerFunction;

}

const inner = outerFunction();

inner();

Description: The outerFunction returns a reference to innerFunction. Even after outerFunction finishes, innerFunction retains access to outerVar. This is called "closure," where innerFunction keeps a connection to the environment in which it was created, known as the "lexical environment." Calling inner() logs 'I am from the outer function', demonstrating how functions can remember their surrounding environment even after their outer function completes execution.