ANSWER 6-

Promises are objects in JavaScript that represent the eventual completion or failure of an asynchronous operation. They provide a cleaner and more organized way to handle asynchronous code compared to traditional callbacks. Promises have three states: pending (initial state), fulfilled (operation completed successfully), or rejected (operation failed).

Promises have several methods that allow you to interact with them. Here are three commonly used methods:

then: The then method is used to handle the successful fulfillment of a promise. It takes one or two callback functions as arguments: the first callback is invoked when the promise is fulfilled, and it receives the resolved value as an argument. The second callback is optional and handles potential errors or rejections. Example:

```
const promise = new Promise(function(resolve, reject) {
  // Asynchronous operation
  setTimeout(function() {
    resolve("Operation successful!"); // Resolve the promise with a value
    // or
    // reject(new Error("Operation failed!")); // Reject the promise with an error
  }, 1000);
});

promise.then(function(result) {
  console.log(result); // Handle the resolved value
}).catch(function(error) {
  console.log(error); // Handle the rejected error
});
```

catch: The catch method is used to handle the rejection of a promise. It is used when an error or rejection occurs during the execution of the promise. It takes a single callback function that receives the error or rejection reason as an argument. Example:

```
promise.catch(function(error) {
  console.log(error); // Handle the rejected error
});
```

finally: The finally method is used to specify a callback function that will be executed regardless of whether the promise is fulfilled or rejected. It allows you to perform cleanup operations or tasks that should be executed irrespective of the promise's outcome. The finally method does not receive any arguments. Example:

```
promise.finally(function() {
  console.log("Cleanup operations"); // Execute this regardless of fulfillment or rejection
});
```