12.JavaScript Error Handling

Q1. What is error handling in JavaScript? Explain the try, catch, and finally blocks with an example.

Error handling in JavaScript is the process of managing runtime errors so that the program does not crash. Instead of stopping the entire code when an error occurs, JavaScript allows us to handle errors safely using try, catch, and finally blocks.

- try: Contains the code that might cause an error.

- catch: Runs only if an error occurs inside the try block.

- finally: (Optional) Runs every time, whether an error happens or not.

Example:

```
try {

  let num = 10 / 0;

  console.log(num);

} catch (error) {

  console.log("An error occurred: " + error);

} finally {

  console.log("Execution completed.");

}
```

Q2. Why is error handling important in JavaScript applications?

Error handling is important because:

- It prevents the program from crashing.

- It helps developers detect and fix mistakes.

- It improves the user experience by showing proper error messages.

- It makes the code more reliable and secure.
  In real applications like banking websites, forms, or login systems, proper error handling is essential to maintain stability and data safety.