TASK 4: TRY …..CATCH and OBJECTS

Part 1: Try and Catch in JavaScript (10 Questions)

1. **Write a program that catches and logs an error when trying to access an undefined variable.**
2. **Create a program that throws a custom error with the message `"Invalid age"` if a user enters a negative number as age.**
3. **Write a function `safeDivide(a, b)` that divides `a` by `b` but throws and catches an error if `b` is zero.**
4. **Write a `try...catch...finally` block where the `finally` block logs `"Finished"` regardless of any error.**
5. **Write a program that catches an error when trying to access a property of a `null` object.**
6. **Manually throw an error using `throw new Error("Something went wrong")` and catch it using `try...catch`.**
7. **Write a program that throws a custom string (e.g., `"This is a string error"`) and catches it.**
8. **Write a program that validates a JSON string using `JSON.parse()` and handles the case where the JSON is invalid.**
9. **Write a function `parseNumber(str)` that converts a string to a number and throws an error if it's not a valid number. Use try/catch to handle the error.**
10. **Write a program that tries to call `.toUpperCase()` on a number and catches the resulting error.**

✅ Part 2: JavaScript Objects (10 Questions)

11. **Create an object named `car` with properties `make`, `model`, and `year`. Log each property to the console.**
12. **Add a method to the `car` object called `getDetails()` that returns a string containing all its properties. Call this method and display the result.**
13. **Use bracket notation to add a new property called `color` to the `car` object and print its value.**
14. **Loop through all properties of the `car` object using a `for...in` loop and log each key and its value.**
15. **Create an object `user` with properties `name`, `email`, and a nested object `address` with `city` and `street`. Access and log the `city`.**
16. **Write a function that accepts an object as a parameter and logs all its keys using `Object.keys()`.**
17. **Write a function `hasEmail(obj)` that returns `true` if the object contains the property `email`, otherwise `false`.**

18. **Create an object with a `name` property and a method `greet()` that uses `this.name` to print a greeting message.**
19. **Use the spread operator (`...`) to create a copy of the `car` object. Change one property in the copied object and show that the original object remains unchanged.**
20. **Create an object `dog` with a property `name` and a method `speak()` that logs something like `"Max says Woof!"` using `this.name`. Call the method.**