Name : Soumya Dixit

Batch : 5th B2

PRN : 23070521151

<!DOCTYPE html>

<html>

<head>

<title>Digital Locker</title>

</head>

<body>

<h2>Digital Locker Output</h2>

<script>

// 1. Greater of two numbers

function getGreater(a, b) {

console.log("Input PINs:", a, b);

return (a > b ? a : b);

}

// 2. Factorial

function factorial(n) {

console.log("Input number for factorial:", n);

let res = 1;

for (let i = 1; i <= n; i++) res \*= i;

return res;

}

// 3. Check JavaScript

const checkScript = str => {

console.log("Input note:", str);

return str.includes("JavaScript");

};

// 4. Secure Message Closure

function secureMessage(password) {

console.log("Password set:", password);

let secret = "Your secret message here";

return function(p) {

console.log("Password attempt:", p);

return (p === password ? secret : "Access Denied");

};

}

// 5. Reverse number

function reverseNumber(num) {

console.log("Input for reverse:", num);

let sign = Math.sign(num);

let rev = parseInt(Math.abs(num).toString().split("").reverse().join(""));

return sign \* rev;

}

// Palindrome check (number)

function isPalindrome(num) {

console.log("Input for number palindrome:", num);

let s = num.toString();

return s === s.split("").reverse().join("");

}

// 6. Word Palindrome

function isWordPalindrome(str) {

console.log("Input word:", str);

let cleaned = str.toLowerCase().replace(/[^a-z0-9]/g, "");

return cleaned === cleaned.split("").reverse().join("");

}

// 7. Square Root

function safeSqrt(n) {

console.log("Input for sqrt:", n);

if (isNaN(n) || n < 0) return "Error: Negative numbers not allowed";

return Math.sqrt(n);

}

// 8. Prime check

const isPrime = n => {

console.log("Input for prime check:", n);

if (typeof n !== "number" || n <= 1) return false;

for (let i = 2; i <= Math.sqrt(n); i++) {

if (n % i === 0) return false;

}

return true;

};

function showMenu() {

return (

"Digital Locker — Choose an option:\n" +

"1. Compare two PINs\n" +

"2. Factorial hash\n" +

"3. Check for 'JavaScript'\n" +

"4. Secure Message (closure)\n" +

"5. Reverse number + Palindrome check\n" +

"6. Word Palindrome\n" +

"7. Square Root\n" +

"8. Prime Check\n" +

"0. Exit"

);

}

(function runLockerMenu() {

while (true) {

let choice = prompt(showMenu());

if (choice === null) break;

choice = parseInt(choice);

if (choice === 0) {

document.write("Exiting...<br>");

break;

}

if (choice === 1) {

let a = parseInt(prompt("Enter first PIN:"));

let b = parseInt(prompt("Enter second PIN:"));

document.write("Stronger PIN: " + getGreater(a, b) + "<br>");

}

else if (choice === 2) {

let n = parseInt(prompt("Enter number:"));

document.write("Factorial: " + factorial(n) + "<br>");

}

else if (choice === 3) {

let note = prompt("Enter note:");

document.write("Contains JavaScript? " + checkScript(note) + "<br>");

}

else if (choice === 4) {

let pwd = prompt("Set password:");

let locker = secureMessage(pwd);

let attempt = prompt("Enter password:");

document.write(locker(attempt) + "<br>");

}

else if (choice === 5) {

let n = parseInt(prompt("Enter number:"));

let rev = reverseNumber(n);

let pal = isPalindrome(n);

document.write("Reversed: " + rev + " | Palindrome? " + pal + "<br>");

}

else if (choice === 6) {

let word = prompt("Enter word:");

document.write("Palindrome? " + isWordPalindrome(word) + "<br>");

}

else if (choice === 7) {

let n = parseInt(prompt("Enter number:"));

document.write("Square Root: " + safeSqrt(n) + "<br>");

}

else if (choice === 8) {

let n = parseInt(prompt("Enter number:"));

document.write("Prime? " + isPrime(n) + "<br>");

}

else {

document.write("Invalid choice<br>");

}

}

})();

</script>

</body>

</html>

