

1. Write a function that swaps two numbers without using a temporary variable using bitwise XOR.
2. Implement a function that checks whether a number is even or odd using the bitwise AND (`&`) operator.
3. Write a function that returns `true` if a number is a power of 2 using bitwise operations.
4. Use the ternary operator to find the largest of three numbers.
5. Write a function that uses the nullish coalescing operator (`??`) to return a default value if input is `null` or `undefined`.
6. Write a function that determines whether a given year is a leap year using `if-else`.
7. Implement a grading system using `switch-case` where:
  - `90-100` → "A"
  - `80-89` → "B"
  - `70-79` → "C"
  - Below `70` → "Fail"
8. Create a function that takes a temperature in Celsius and returns:
  - `"Cold"` if below `10°C`
  - `"Warm"` if between `10°C` and `30°C`
  - `"Hot"` if above `30°C`
9. Use a nested ternary operator to determine if a number is positive, negative, or zero.
10. Write a function that validates user input for age (age must be a number between `1` and `100`).
11. Write a loop that prints all prime numbers from 1 to 100.
12. Implement a function that reverses a string using a `for` loop.
13. Write a function that uses a while loop to calculate the sum of digits of a number.
14. Create a function that finds the factorial of a number using a `do-while` loop.
15. Write a function that removes duplicate elements from an array using a loop.
16. Use a `for...in` loop to print all key-value pairs in an object.
17. Implement a recursive function to find the nth Fibonacci number.

18. Create a curried function for summing three numbers like `sum(2)(3)(4) → 9`.

19. Convert a normal function to an arrow function that squares a number.

20. Write a JavaScript program that:

- Creates a `<button>` element
- Adds text `"Click Me"`
- Attaches a click event that changes the button text to `"Clicked!"`

21. Implement a function that dynamically creates an unordered list `<ul>` from an array of strings and appends it to the document body.