

## Task: Applying JavaScript for the Digital Rehabilitation Center Website

### Goal:


Throughout week 8, you will need to study and apply various JavaScript topics, adapting examples from w3schools to develop the website for the Digital Rehabilitation Center of Kazakhstan. Each example should be related to the functionality of the website you are creating.

### Task:


For each of the following JavaScript topics, you must:

1. Review the examples on w3schools.
2. Apply these examples on your website, adapting them to the context of the Digital Rehabilitation Center.
3. Write the code and demonstrate its functionality on your website. The examples can be simple, but the main goal is for them to be functional and relevant to the purpose of the website.

### List of Topics for Practice:

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1. JS Introduction
    - a. Introduction to JavaScript.

Example: Use console.log to output a greeting when the page loads.

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2. JS Where To
    - a. Where to write JavaScript.

Example: Write code in a separate file and link it to an HTML page.

3. JS Output
  - a. Outputting data to the console.

Example: Output information about a patient or service to the console.

4. JS Statements
  - a. Statements.

Example: Perform a service cost calculation using arithmetic operators.

5. JS Syntax
  - a. Correct JavaScript syntax.

Example: Create variables to store patient data and display them on the page.

6. JS Comments
  - a. Comments in code.

Example: Add comments explaining each part of the code.

## 7. JS Variables

- a. Using variables.

Example: Create variables for a patient's name and age.

## 8. JS Let

- a. Declaring variables with let.

Example: Use let to create changeable variables, such as a patient's age.

## 9. JS Const

- a. Declaring variables with const.

Example: Create a constant for the name of your center and display it on the page.

## 10. JS Operators

- a. Operators (arithmetic, assignment).

Example: Calculate the total cost of services using arithmetic operators.

## 11. JS Arithmetic

- a. Arithmetic operators.

Example: Create code to calculate the cost of a service package (e.g., 3 consultations at 5000 tenge each).

## 12. JS Assignment

- a. Assignment operators.

Example: Use assignment operators to update data on the website.

## 13. JS Data Types

- a. Data types.

Example: Create variables of different types (strings, numbers, booleans) to display patient information.

## 14. JS Functions

- a. Functions.

Example: Write a function that changes the background color when a button is clicked.

## 15. JS Objects

- a. Objects.

Example: Create an object for a patient containing their name, age, and list of services.

## 16. JS Object Properties

- a. Object properties.

Example: Create an object with patient data and display it on the page.

## 17. JS Object Methods

- a. Object methods.

Example: Write a method for a patient object that displays information about their recovery.

## 18. JS Object Display

- a. Displaying objects.

Example: Display a patient object on the page, showing its properties in a user-friendly format.

## 19. JS Object Constructors

- a. Object constructors.

Example: Create a constructor to create patient objects.

## 20. JS Events

- a. Events.

Example: Add an event handler for a consultation booking button.

## 21. JS Strings

- a. Strings.

Example: Use strings to create a welcome message for the patient.

## 22. JS String Methods

- a. String methods.

Example: Use string methods to transform text (e.g., convert to uppercase).

## 23. JS String Search

- a. Searching in strings.

Example: Find the desired service in a string using the indexOf method.

## 24. JS String Templates

- a. String templates.

Example: Use string templates to dynamically generate text on the website.

## 25. JS Numbers

- a. Numbers.

Example: Calculate service costs using numeric values.

## 26. JS BigInt

- a. Working with large numbers.

Example: Use BigInt for calculations with large numbers, such as for many patients.

## 27. JS Number Methods

- a. Number methods.

Example: Use the toFixed() method for rounding numbers in cost calculations.

## 28. JS Number Properties

- a. Number properties.

Example: Use number properties like MAX\_VALUE to demonstrate extreme values.

## 29. JS Arrays

- a. Arrays.

Example: Create an array with services and display them on the page.

### 30. JS Array Methods

- a. Array methods.

Example: Use array methods for filtering and sorting services by category.

### 31. JS Array Search

- a. Searching in arrays.

Example: Find a service in an array and display it on the screen.

### 32. JS Array Sort

- a. Sorting arrays.

Example: Sort services by cost.

### 33. JS Array Iteration

- a. Iterating over arrays.

Example: Use the `forEach()` method to iterate over and display all services on the page.

### 34. JS Array Const

- a. Arrays with `const`.

Example: Create an immutable array of services using `const`.

### 35. JS Dates

- a. Working with dates.

Example: Display the current date and time on the website for patient booking.

### 36. JS Date Formats

- a. Date formatting.

Example: Use the `toLocaleDateString()` method to display the date in the desired format.

### 37. JS Date Get Methods

- a. Date getter methods.

Example: Get the current date and time using methods of the `Date` object.

### 38. JS Date Set Methods

- a. Date setter methods.

Example: Change the date on the website to display available booking dates.

### 39. JS Math

- a. Mathematical operations.

Example: Use the `Math` object methods for calculations.

### 40. JS Random

- a. Generating random numbers.

Example: Use `Math.random()` to generate random values (e.g., consultation ID).

### 41. JS Booleans

- a. Boolean values.

Example: Check if a service is available using a boolean value.

## 42. JS Comparisons

- a. Value comparisons.

Example: Compare a patient's age with a threshold value to provide a discount.

## 43. JS If Else

- a. Conditions.

Example: Use if...else to display different messages based on the patient's age.

## 44. JS Switch

- a. switch statement.

Example: Use switch to select the appropriate treatment method based on the disease type.

## 45. JS Loop For

- a. for loop.

Example: Iterate over a list of services using a for loop.

## 46. JS Loop For In

- a. for...in loop.

Example: Iterate over the properties of a patient object using for...in.

## 47. JS Loop For Of

- a. for...of loop.

Example: Use for...of to iterate over an array of services.

## 48. JS Loop While

- a. while loop.

Example: Use a while loop to create a counter for the number of registered patients.

## 49. JS Break

- a. Breaking out of a loop.

Example: Use break to exit a loop when the required service is found.

## 50. JS Iterables

- a. Iterating over collections.

Example: Use iterators to work with arrays and objects.

## 51. JS Sets

- a. Sets.

Example: Use Set to store unique values.

## 52. JS Set Methods

- a. Set methods.

Example: Use methods like add(), has(), and others to work with sets.

## 53. JS Maps

- a. Maps.

Example: Create a Map object to store and retrieve services by key.

#### 54. JS Map Methods

- a. Map methods.

Example: Use methods like `set()`, `get()`, `has()` to work with maps.

#### 55. JS Typeof

- a. `typeof` operator.

Example: Determine the data type of an input value (e.g., the type of the patient's age).

#### 56. JS Type Conversion

- a. Type conversion.

Example: Convert a string to a number for cost calculation.

#### 57. JS Destructuring

- a. Object and array destructuring.

Example: Extract properties from a patient object using destructuring.

#### 58. JS Bitwise

- a. Bitwise operators.

Example: Use bitwise operators for processing some data (if applicable).

#### 59. JS RegExp

- a. Regular expressions.

Example: Use regular expressions to validate input data (e.g., a patient's phone number).

#### 60. JS Precedence

- a. Operator precedence.

Example: Calculate costs considering operator precedence.

#### 61. JS Errors

- a. Error handling.

Example: Use `try...catch` to handle errors when entering data.

#### 62. JS Scope

- a. Scope.

Example: Use local and global variables to handle patient data.

Specification for the Task:

1. For each task, adapt the example from w3schools to the Digital Rehabilitation Center website.
2. Ensure the code works correctly, and the functionality is operational on the site.

Good luck with your task!