

Web Application Development Lab

Assignment - 4

Introduction to JavaScript, String, Array, Objects

1. Create a function `gradeCalculator(score)` that takes a score (0-100) and returns the corresponding grade: "A" for 90-100, "B" for 80-89, "C" for 70-79, "D" for 60-69, and "F" for anything below 60.
2. Write a function `sumOfDigit(num)` which will return sum of digits of a given number.
3. Create a function `isPrime(num)` that returns true if the number is prime and false otherwise.
4. Create a function `arraySum(arr)` that takes an array of numbers and returns the sum of all its elements.
5. Create a function `countVowels(str)` that counts the number of vowels in a given string and returns the count.
6. Create a student object with roll, name, mobile, and email. Display the student details. Write code to update the mobile number of the student and display again. Write code to add a key value `payer` for `spga` which contains an array of SGPA's of four semesters. Calculate the CGPA of the student and display it.
7. Consider the array of objects and answer the following questions.
[
 { title: "The Power of Now", author: "Eckhart Tolle", price: 499, rating: 4.3 },
 { title: "A New Earth: Awakening to Your Life's Purpose", author: "Eckhart Tolle", price: 599, rating: 4.5 },
 { title: "Atomic Habits: An Easy & Proven Way to Build Good Habits & Break Bad Ones", author: "James Clear", price: 799, rating: 4.8 },
 { title: "The 5 AM Club: Own Your Morning, Elevate Your Life", author: "Robin Sharma", price: 650, rating: 4.4 },
 { title: "Wings of Fire", author: "A. P. J. Abdul Kalam", price: 199, rating: 4.6 }
]
 - i. Log all the book details in the format = "A. P. J. Abdul Kalam wrote the book Wings of Fire has a rating 4.6 and costs 199."
 - ii. Display all the book names with rating greater than or equals to 4.5.
 - iii. Display the book details with the longest title
 - iv. Write a function which will take the array and a price and will return an array with all the books having price less than or equals to the given price. Display the book details. If no book is available display that as well.
 - v. Write a function which will take the array and an author name and will return an array with all the books written by that author. Display the book details. If no book is available display that as well.
8. Write a function `calculate(num1, num2, operation)` that takes two numbers and a callback function representing the operation (addition, subtraction, etc.). Call the operation and return the result.