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Advanced Java Programming

11/21/2023

**Project 5-1 Implement Recursion**

**Source Code:**

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import java.util.Scanner;

public class Recursion {

// Recursive method to calculate the product of an array of numbers

public static int product(int [] nums, int index) {

// If the index is less than 0, return 1

if (index < 0) {

return 1;

}

// Using recursion, calculate the product of the current number and the product of the rest of the numbers

return nums[index] \* product(nums, index - 1);

}

public static void main(String[] args) {

Scanner scnr = new Scanner(System.in);

// Create an array to store the five numbers

int[] nums = new int[5];

// Asks the user to enter five numbers

System.out.println("Please enter five numbers:");

for (int i = 0; i < 5; i++) {

System.out.print("Number " + (i + 1) + ": ");

nums[i] = scnr.nextInt();

}

// Calls product() to calculate the product using recursion

int product = product(nums, 4);

// Display the result

System.out.println("The product of the five numbers is: " + product);

}

}

**Executing the Application:**  


