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Write a program that calculates the sum of all elements in a list.

Program In C



```
#include <stdio.h>

int calculateSum(int arr[], int size) {
    int sum = 0;

    for (int i = 0; i < size; i++) {
        sum += arr[i];
    }

    return sum;
}

int main() {
    int arr[] = {2, 4, 5, 7, 9};
    int size = sizeof(arr) / sizeof(arr[0]);


    int sum = calculateSum(arr, size);
    printf("The sum of all elements in the list is: %d\n", sum);
}
```

```
    return 0;  
}
```

Explanation:

- In this program, the calculateSum function takes an array arr and its size size as parameters.
- It initializes a variable sum to 0 and then iterates through each element of the array, adding it to the sum.
- Finally, it returns the sum.
- In the main function, an array arr is declared with some example values.
- The size of the array is calculated using the sizeof operator.
- Then, the calculateSum function is called with the array and its size, and the sum of all elements is printed to the console.

Output:

Output 

```
The sum of all elements in the list is: 27
```

Program In Java

Java 

```
public class CalculateSum {  
    public static int calculateSum(int[] arr, int size) {  
        int sum = 0;  
  
        for (int i = 0; i < size; i++) {  
            sum += arr[i];  
        }  
  
        return sum;  
    }  
  
    public static void main(String[] args) {  
        int[] arr = {2, 4, 5, 7, 9};  
        int size = arr.length;  
  
        int sum = calculateSum(arr, size);  
        System.out.printf("The sum of all elements in the list is:  
%d\n", sum);  
    }  
}
```

Explanation:

1. The program defines a public class named CalculateSum.
2. Inside the class, the program defines a static method named calculateSum that takes

two parameters: an integer array `arr` and the size of the array `size`.

3. The method initializes a variable `sum` with an initial value of 0.
4. It then enters a for loop that iterates from 0 to `size - 1`.
5. Inside the loop, each element of the array `arr[i]` is added to the `sum` variable using the `+=` operator.
6. After the loop finishes, the method returns the calculated sum.
7. The program also defines a main method, which is the entry point of the program.
8. Inside the main method, an integer array `arr` is declared and initialized with values {2, 4, 5, 7, 9}.
9. The size of the array is determined using the `length` property of the array (`int size = arr.length`).
10. The `calculateSum` method is called with the `arr` array and its size as arguments, and the result is stored in the `sum` variable.
11. Finally, the program uses `System.out.printf()` to print the result to the console, displaying the message "The sum of all elements in the list is: " followed by the value of `sum`.

Output

```
The sum of all elements in the list is: 27
```

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