*Solution for Assignment 1:*

COMP-352

by

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**Question 1:**

1. Solution

**Algorithm** question1(array, n)

**Input:** ***array*** *of Integers of size* ***n***

**Output**: sumEvenPos, sumOddPos *(Variable description here)*

sumEvenPos ← 0

sumOddPos ← 0

**for** i ← 0 **to** n - 1 **do**

**if** array[i] > 0 **then**

**if** array[i] % 2 = 0 **then**

sumEvenPos ← sumEvenPos + array[i]

else

sumOddPos ← sumOddPos + array[i]

{ increment counter **i** }

**return** sumEvenPos, sumOddPos

1. However, the auxiliary space is

**Question 2:**

2. G

**Question 3:**

1. Yes we can, here’s the new algorithm

**Algorithm** arraySpecialSum(A, n)

**Input:** *A array of numbers of size n*

**Output**: specialSum

currentMax ← A[0]

**for** i ← 1 **to** n - 1 **do**

**if** A[i] > currentMax **then**

currentMax ← A[i]

specialSum ← 0

**for** i ← 0 **to** n - 1 **do**

**if** A[i] = currentMax **then**

specialSum ← n \* (specialSum + A[i])

**return** specialSum

* The second one is much more efficient because we calculate the special sum while calculating how many max occurrences there is