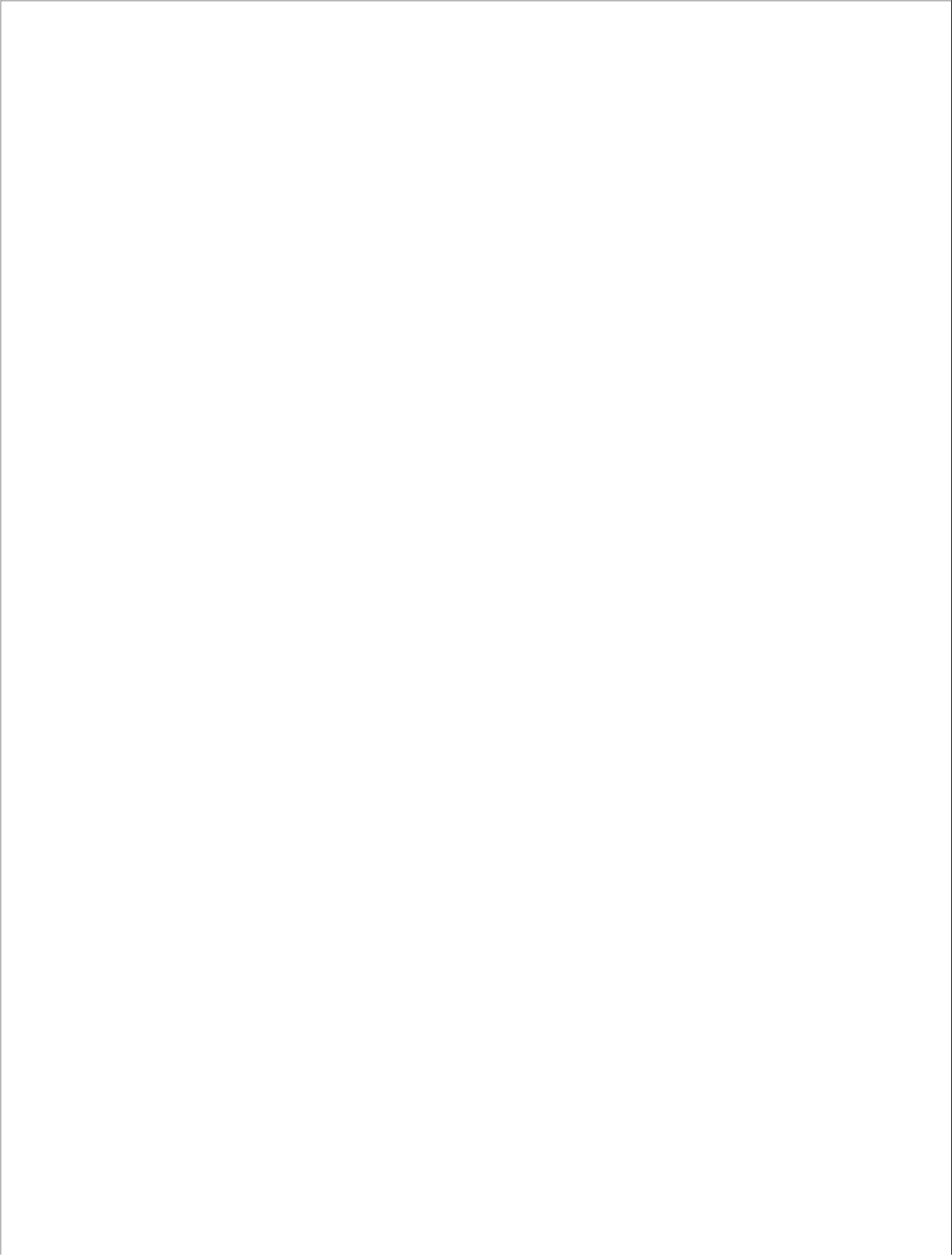
**CSc 2720 - Data Structures: Lab 9**

**Deadline to Submit: [3/12/2021] [11:00pm] ET(US)**

Failure to submit will result in a zero for this lab.

**Problem: [100 points]**

Given an array of unique positive integers, write a function findSums that takes the array input and:

1. Creates a hashtable called “hashT” and inserts all the elements of the input array in the hashtable.
2. Finds pairs of elements in the hashtable whose sum is another element (sum) in the hashtable and print the pairs in the console.
3. Returns another hashtable names “sums” of those sum elements.

**For example:**

**Input:** [1,5,4,6,7,9]

**Output:** [6,5,7,9]

**Explanation:** 6 = 1 + 5 ; 5 = 1 + 4 ; 7 = 1 + 6 ; 9 = 5 + 4

-------------------------------------- Class Template --------------------------------------------

**import** java.util.HashSet;

**public class** FindSum {

**public static void** main(Stringargs[]){ **int**[]arr= { 1, 5, 4, 6, 7, 9 };HashSet<Integer> res = *findSums*(arr); System.***out***.println(res.toString());

// Should return [6,5,7,9]

}

**public static** HashSet<Integer> findSums(**int**[]elements){

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| HashSet<Integer> | | | sums = **new** HashSet<Integer>(); | | | | | | |  |  |
| // To Initialize | | | a hashtable | | | | | HashSet<Integer> hashtable = new HashSet<Integer>(); | | | |
|  |  |  | |  |  |  |  |  |  |  |  |
| // | To | add "newItem" to hashtable | | | | | |  |  | hashtable.add(newItem); | |
|  |  |  | | |  | |  |  |  |  | |
| // | To | check if "item" exist in hashtable | | | | | | | | hashtable.contains(item); | |
|  |  |  |  |  |  |  |  |  |  |  |  |

**return** sums;

}

}

