CS-200: Programming I
Fall 2017
Northeastern Illinois University
PLTL: Week of 02/27/17
Arrays/Loops

Problem #1

- Write a program that has the class name `Problem1` and that has the `main` method.
- Write a method named `multipleOfIndices` that takes one parameter, a positive integer array `arr` and returns a boolean array.
- For every integer in the integer array, the program should check if the integer is a multiple of the index it is in, and assign the boolean as an element for boolean array at that index. Note that if the index is 0^{th} and 1^{st}, then return `true` if the remainder is equal to the index when divided by 10 else return `false`.
- As a reminder, a number `m` is a multiple of `n` if `m` can be evenly divided into `n`. For example, `24` can be divided into `3` evenly, therefore `24` is a multiple of `3`, so the element would get a value of `true` if `24` is in a 3^{rd} index.
- Create a `printArray` method that takes a boolean array as a parameter and prints out the elements of the array on the same line separated by a space.
- Several sample runs are provided for you below. Your output must be formatted **exactly** like the sample runs below. Use the sample usages in the `main` method to test your code

Sample Method Usage	Return Value
`int[] a1 = { 1, 21, 5, 9, 12, -50, 47 };` `boolean[] b1 = multipleOfIndices(a1);`	`{ false, true, false, true, true, true, false }`
`int[] a2 = {5, 3, 77, 34, 43};` `boolean[] b2 = multipleOfIndices(a2);`	`{ false, false, false, false, false}`
`int[] a3 = { 30, 22, 42, 8, 15, 27, 6 };` `boolean[] b3 = multipleOfIndices(a3);`	`{ true, false, true, false, false, false, true }`
`int[] a4 = { 10, 51, 34, 69, 44, 95};` `boolean[] b4 = multipleOfIndices(a4);`	`{ true, true, true, true, true, true }`

Problem #2

- Write a program that has the class name `Problem2` and that has the `main` method. Leave the `main` method empty for now.
- Write a method named `greaterThanSum` that takes one parameter, an integer array `a` and returns a new integer array `x`.

- The method finds all the terms of an array a that are greater than the sum of all previous terms of the sequence. If there is no such elements, you can return an empty array.
- Several sample usages are provided for you below. Use the sample usages in the `main` method to test your code.Create a `printArray` method that takes an integer array as a parameter and prints out the elements of the array on the same line separated by a comma and space.

Sample Method Usage	Return Value
`int[] a1 = { 1, 4, 16, -19, -12, 2, 5 };` `int[] x1 = greaterThanSum(a1);`	`{1, 4, 16, 2, 5 }`
`int[] a2 = { -1, -2, -4, -12 };` `int[] x2 = greaterThanSum(a2);`	`{ }`
`int[] a3 = { 29, -10, 22, 5, -15, 19, 62};` `int[] x3 = greaterThanSum(a3);`	`{29, 22, 62 }`
`int[] a4 = { 5, 8, 17, 50};` `int[] x4 = greaterThanSum(a4);`	`{5, 8, 17, 50 }`