

CS 3520-AM,BM,AE/CS 2980-AW: Design and Analysis of Algorithms

Project

Date Assigned: Jun 14th, 2019

Date Due: None

(Total Score: 0%)

(Questions: 1)

Instructions:

You can use any programming language or tool to work on this Project. Bring a hard copy of your code in class, with your name and Student ID mentioned on the printed sheet.

Q 1. (5%)

a) Develop and implement an Algorithm for the following problem:

“Given an array A consisting of n integers, and an integer b , find out if there exists two elements c and d in A , such that $c + d = b$.”

- i. A might contain positive or negative numbers, or zero.
- ii. A might contain duplicate values.
- iii. You need to output all pairs of elements (c,d) , if such exists.

b) Your Algorithm should not run more than $\Theta(n \log n)$ time.