

Program 1 pgmlcop3530dsA_a - cop3530 Data Structures and Algorithms

Professor: Michael Robinson

e-mail : mrobi002@cs.fiu.edu

Web Page : www.cs.fiu.edu/~mrobi002/teaching

- Program must be named: yourLastNameFirstLetterOfYourFirstNamepgml.java
If your name is George Washington the program should be named:
WashingtonGpgml.java
- Turn in the signed source code on paper, and email me the source code.
- Make sure the program is properly documented and aligned uniformly, looking professionally, I will take points off if it is not.
- Include the following header in every program:

/******

Author : Your Name
Course : COP 3530 Date, Time and place of class
Professor : Michael Robinson
Program # : Program Purpose/Description
 {A brief description of the program }
Due Date : MM/DD/YYYY

Certification:

I hereby certify that this work is my own and none of it is the work of any other person.
.....{ your signature }.....

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Purpose of this program: Implement chapter 2 ideas

1 - Worth 3 points

From the main method call a method named Big0, in the Bio0 method do the following:

*** Using one set of two for loops (a nested for loop)

- Create a two dimensions array of ints of size 10 x 10
- Load all indexes with the addition of its row + column
- Display the two dimension array with its data displaying a perfect square
- Analyze the contents of the array and obtain the following totals:
 - Total for all values found in the diagonal locations from 0,9 to 9,0
 - Total for all values found in the diagonal locations from 0,0 to 9,9
 - Total for all values found in the columns 5 and columns 7
 - Total for all values found in the rows 5 and columns 7
- Print the big 0 of this method

2 - Worth 2 points

- Using ints only, implement recursion to find the factorial of 5
- Find out what is the first positive int where recursion fails
- Using longs only, implement recursion to find the factorial of 5
- Find out what is the first positive long where recursion fails
- Print the big 0 of this method

3 - Worth 1 point

- Find the factorial of 50 using either ints or longs
- Print the big 0 of this method

4 - Worth 2 points

Using binary search

- Load into primary memory in a single dimension array the numbers from 1 to 1,000,000
- Find out how many reads it takes to find the numbers:
5; 279,000; 555; and 897,000 e.g.

To find number x it took y reads.

- Print the big 0 of this method