



CodeCrunch

[Home](#) | [My Courses](#) | [Browse Tutorials](#) | [Browse Tasks](#) | [Search](#) | [My Submissions](#) | [Logout](#) | Logged in as: **e0175527**

CS1010E Practice Exercise: Goldbach Conjecture

Tags & Categories

Tags:

Categories:

Related Tutorials

Task Content

Goldbach Conjecture

Topic Coverage

- Control statements
- Assignment and expressions
- Value-returning functions and procedures

You may use other programming constructs, but **do not** use the math library functions.

Problem Description

In June 7, 1742, Christian Goldbach wrote a letter to Leonhard Euler in which he states that "at least it seems that every number that is greater than two is the sum of three primes". Goldbach considered 1 to be a prime, a convention which is no longer assumed.

Euler later came up with an equivalent "strong" conjecture which asserts that all positive even integers greater than two can be expressed as the sum of two primes. This conjecture remains open till today as nobody has yet proved it. In the words of Goldbach himself: "I consider an entirely certain theorem in spite of that I am not able to demonstrate it."

Task

Write a program that reads as input a number and determines all possible pairs of sum of primes, apart from rearrangement. Assume that the input is even, as well as, greater than two.

The following is a sample run of the program. User input is underlined. Ensure that the last line of output is followed by a newline character.

```
$ ./a.out
4
4 = 2 + 2

$ ./a.out
10
10 = 3 + 7
10 = 5 + 5

$ ./a.out
50
50 = 3 + 47
50 = 7 + 43
50 = 13 + 37
50 = 19 + 31
```

Submission (Course)

Select course: CS1010E (2017/2018 Sem 1) - Programming Methodology ▼

Your Files:

SUBMIT (only .java, .c, .cpp and .h extensions allowed)

To submit multiple files, click on the Browse button, then select one or more files. The selected file(s) will be added to the upload queue. You can repeat this step to add more files. Check that you have all the files needed for your submission. Then click on the Submit button to upload your submission.

© Copyright 2009-2017 National University of Singapore. All Rights Reserved.
Terms of Use | Privacy | Non-discrimination

MySoC | Computing Facilities | Search | Campus Map
School of Computing, National University of Singapore