Programming Assignment #1

COEN 283 Operating Systems
Department of Computer Engineering
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Tuesday & Thursday 9:00-9:30pm

Due date: July 7, 2013

Huge Semiprime Numbers (150 points)

Please implement a program using C or C++ for factoring a list of huge semipime or biprime numbers (each biprime number is a product of two primes) using thread programming. The input example is showed below, and it consists of a list of semiprime numbers. All values are default to C/C++ user-defined type of huge integer. Comments may be anywhere in test data from '#' to end of the line, and white spaces (e.g., space, tab, etc.) only for readability and different people may have different tastes. Your program should find all prime factor number pairs.

```
# this is a comment, input a small composite number
      62615533
# this is a comment, input a composite number (not huge yet)
984,153,829,199
```

The output will be something similar to the following:

```
7907 7919
972161 919759
```

Since it takes very long time to find huge semiprime numbers, you are required to implement multi-thread program using pthread and any efficient algorithm to speed up the execution time.

Student Name:

SSN/ID:

Score:

Correctness and boundary condition (54%):

Speed comparison against classmates (8%):

Whitespace and free format compliance (4%):

Compiling without warning/error (2%):

Error Handling (4%):

Modular design, file/directory organizing, showing input, documentation, coding standards (24%):

Automation (4%):

Subtotal:

Late penalty (20% per day):

Special service penalty (4%):

Total score: