Sum of Primes

Goldbach's Conjecture states that every even integer n bigger than 2 can be represented as the sum of two primes. For example, 4 = 2+2, 8 = 3+5, 40 = 3+37, etc. This conjecture has never been proven for all even integers bigger than 2, but it has been proven using computers for all such integers up to 200000000000000000.

Write a program that reads even integers from input.txt, and writes to output.txt the 2 prime numbers that sum to the even integer. If there is more than one solution, choose the pair of prime numbers that are farthest apart from each other. For example, 40 could also be the sum of 17 and 23, but 3+37 is the correct solution. Write the smaller number first, followed by exactly one space, followed by the bigger number, followed by 1 carriage return. The first line of input.txt contains how many even integers are in the rest of the file. There will not be more than 1000. Each even integer will be between 4 and 2,000,000,000.

Remember that the dollar signs in the example below are NOT part of your output, but represent carriage returns.

Example:

input.txt:
```
3$
8$
4$
40$
```

output.txt:
```
3 5$
2 2$
3 37$
```