CS3323 Homework 7 – Python yield

We call an integer *SPSP* if it can be written as a sum of a prime and a square of a prime. For example, 11 is a SPSP since $11 = 2 + 3^2$, but 13 is not SPSP.

1. Write a Python generator that yields all squares of primes starting from 4.
2. Write a Python generator that on an input positive integer n, yields all SPSP numbers in the increasing order that are greater than n.
3. Let N be your student ID number. Use the generator to find 20 consecutive SPSP numbers right after $N * 10$.

Note:

1. You may use, with clear citations, functions which we developed in class, but you should not import any modules.
2. You need to pay attention to efficiency of the program as numbers involved are quite large.
3. Please include the answer to the question (3) as comments in the source code, and submit the source code as text file.