Given a positive integer, K, compute the K^{th} prime (for $K = 1$, this is 2; for $K = 2$, it is 3, etc.). The input is a single free-form integer. The output has the format

`Prime` K `is` P`.`

where K is replaced by the input and P by the prime. You may assume that $P \leq 100,000,000$.

Your program must complete in less than 20 sec. of execution time when compiled with full optimization (for C/C++, this will be `gcc -O3`, and if on a Sparc, `gcc -O3 -mv8`).