python supports arbitrarily large integers naturally

Length: 4 bits => range: <= 2^(4) => x = 16 (all primes less or equal to 16) = x/ ln x = 16/ln(16) = 5

Length: 512 bits => range: <= 2^(512) ~ 150 digits in the decimal system

Length 1024 bits: => range: <=2^(1024) ~ 253553333548986724587295553627789506758169806596857410832224684891523734023574257379786298735236378070307776198426223525195565450796773130117893417060802231093703606453198333402741293673944300140714683271069488692192775058993411386296201068854197819591657352127318796950201324922348549527933478493860397056

<https://docs.python.org/3/library/math.html>

<https://www.geeksforgeeks.org/primality-test-set-3-miller-rabin/>

