

C47 Ref page : Prime numbers

Label	FullName	AdditionalInfo	AdditionalInfo
NEXTP	Next prime	Next prime number	Prime numbers are calculated only if $X < 10^{308}$, or an error is returned ("An argument exceeds the function domain")
PRIME?	Prime?	Test X is a prime number	The prime test (PRIME?) is correct up to 3 317 044 064 679 887 385 961 980 ; above that limit there are no false negatives, but there is a very low probability of false positives (albeit no known cases)
FACTORS	Prime factor	Prime factors of the integer input in X ; factors are calculated in longint, stored in real type (34 digits) and returned as a 2 row matrix (row 1 contains the primes, row 2 contains the powers) ; with iteration counter ; interrupt by keypress	Prime factors will be accurate up to 3 317 044 064 679 887 385 961 980
M.FACT	M.FACT	Multiply (prime) factors from a 2 row matrix in X (row 1 contains the factors, row 2 contains the powers)	E.g. use FACTORS matrix as input in X
$\zeta(x)$	$\zeta(x)$	Riemann's Zeta for real arguments	
$\varphi_E(x)$	$\varphi_E(x)$	Euler's totient function	