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## Symbols

$|S|$  (cardinality of a set  $S$ ), 49  
 $\in$  (set member), 49  
 $\subseteq$  (subset), 49  
 $\subset$  (proper subset), 49  
 $\cap$  (set intersection), 49  
 $\cup$  (set union), 49  
 $-$  (set difference), 49  
 $\times$  (Cartesian product), 49  
 $\emptyset$  (empty set), 50  
 $O$ -notation (big-O), 58  
 $\Omega$ -notation (big-omega), 59  
 $\Theta$ -notation (big-theta), 59  
 $o$ -notation (little-o), 59  
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 $L_q[\alpha, c]$  (subexponential notation), 60  
 $\leq_P$  (polytime reduction), 61  
 $\sim$  (asymptotic equivalence), 134  
 $\pi$  (mathematical constant pi), 49  
 $e$  (base of natural logarithms), 49  
 $\sum$  (sum), 50  
 $\prod$  (product), 50  
 $!$  (factorial), 50  
 $\lfloor \cdot \rfloor$  (floor), 49  
 $\lceil \cdot \rceil$  (ceiling), 49  
 $\phi$  (Euler phi function), 65, 286  
 $\mu(n)$  (Möbius function), 154  
 $\lg$  (base 2 logarithm), 50  
 $\ln$  (natural logarithm), 50  
 $[a, b]$  (interval of integers), 49  
 $|$  (divides relation), 63, 79  
 $\equiv$  (congruence relation), 67, 79  
 $\ll$  (much less than), 529  
 $\gg$  (much greater than), 170  
 $\binom{n}{k}$  (binomial coefficient), 52  
 $\left(\frac{a}{p}\right)$  (Legendre symbol), 72  
 $\langle \cdot \rangle$  (inner product), 118  
 $\|x\|$  (length of a vector  $x$ ), 118  
 $a \leftarrow b$  (assignment operator), 66  
 $a \| b$  (concatenation of strings  $a, b$ ), 38  
 $\{0, 1\}^k$  (bitstrings of bitlength  $k$ ), 447  
 $\{0, 1\}^*$  (bitstrings of arbitrary bitlength), 447  
 $\mathbb{Q}$  (the rational numbers), 49  
 $\mathbb{R}$  (the real numbers), 49

$\mathbb{Z}$  (the integers), 49  
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