



UNIVERSITY OF AL-QADISIYA
FACULTY OF SCIENCE
DEPARTMENT OF MATHEMATICS

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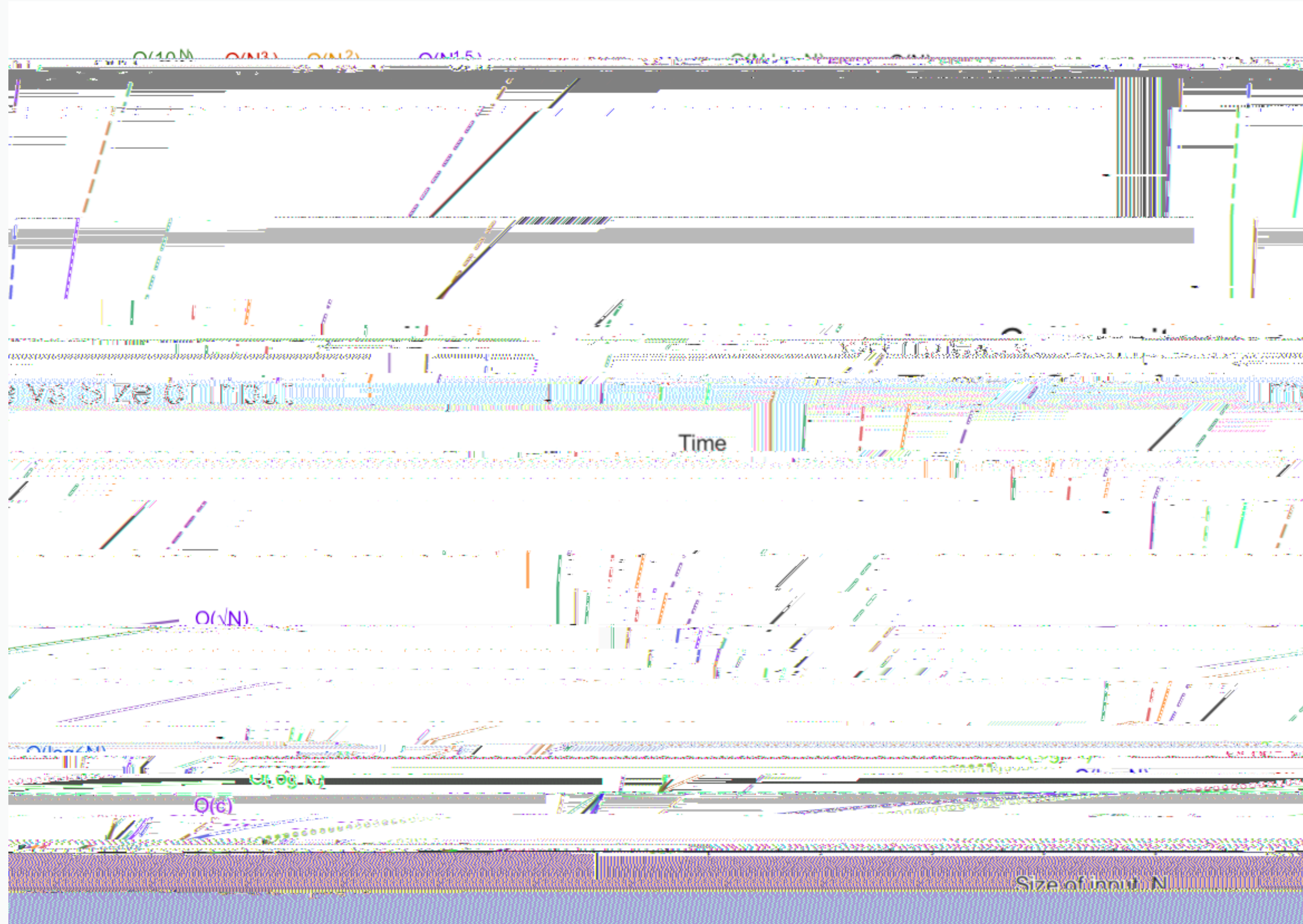
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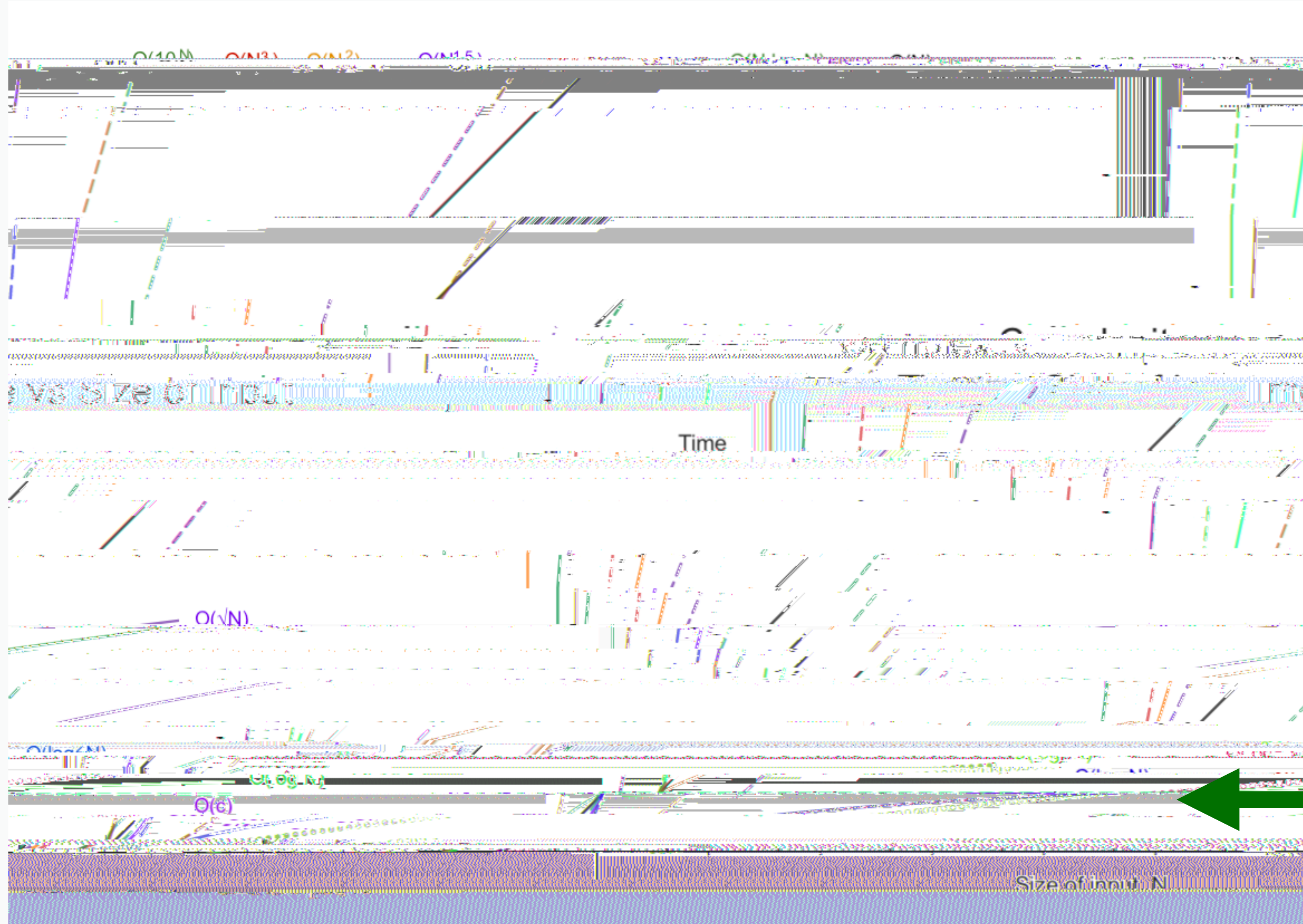
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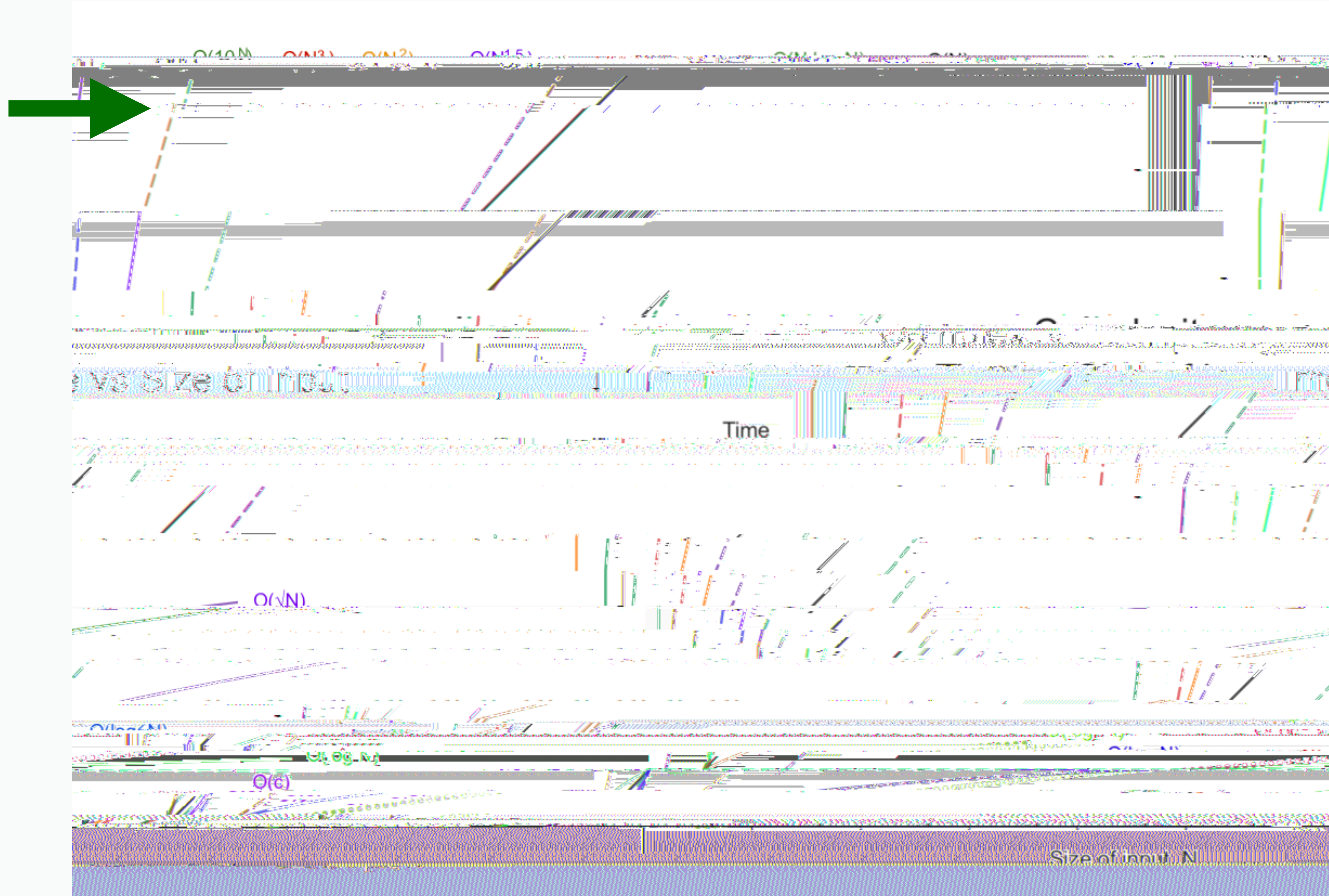
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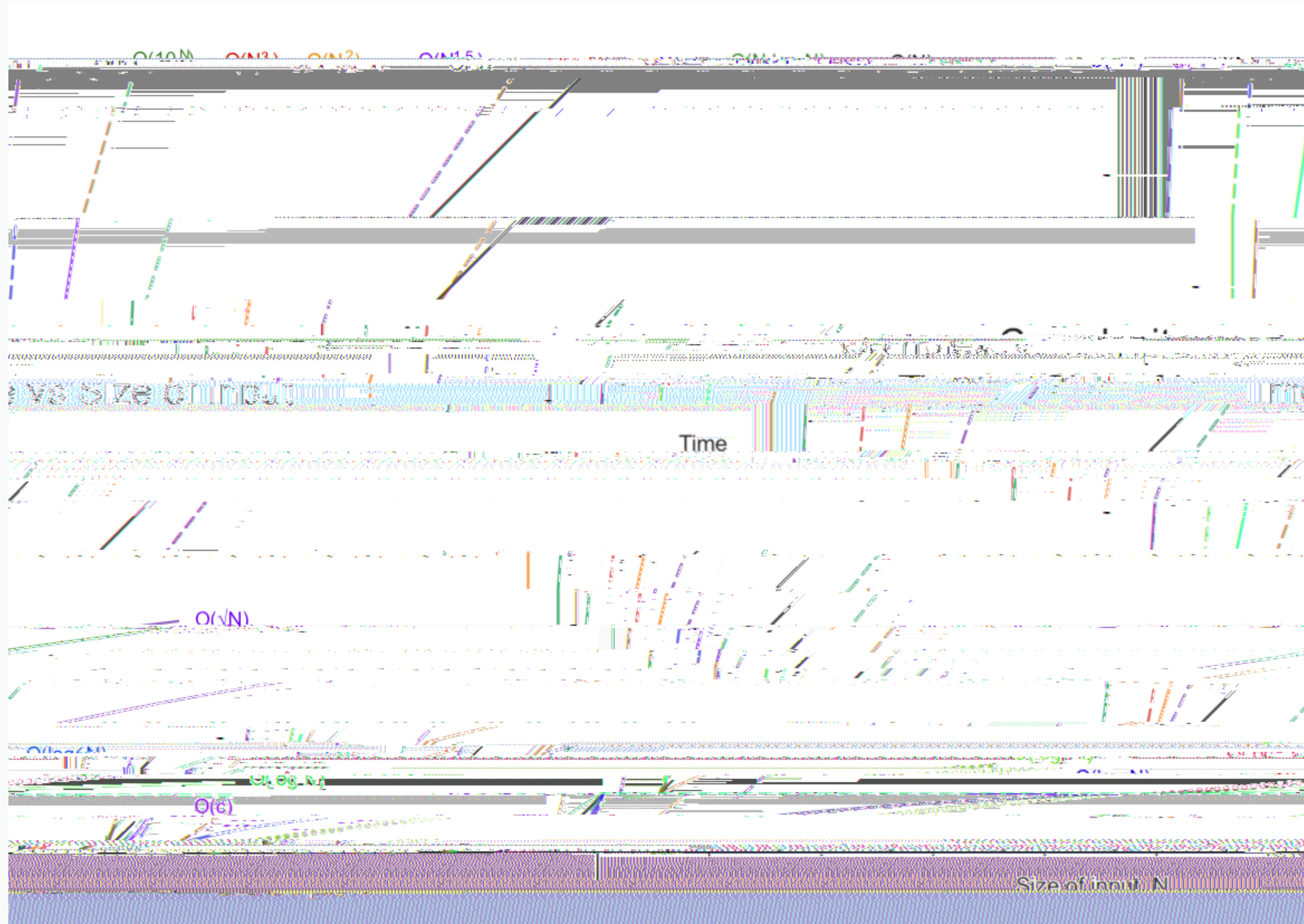
asymptotic notation.

Big-O notation —









~~is denoted $T(N) \prec C(N)$ when $N \succ n$~~

$T(N) = O(N^2)$ if c_1 and c_2 are positive constants

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~~is denoted $T(N) \prec C(N)$ when $N \succ n$~~

$T(N) = O(h(N))$ if for all positive constants c there

$$\exists N_c \text{ such that } \forall N \geq N_c, T(N) \leq c h(N)$$

$T(N) = \Omega(h(N))$ if for all positive constants c there

$$T(N) = \Omega(h(N)).$$

$T(N) = \Theta(h(N))$ if for all positive constants c there

$$\exists N_c \text{ such that } \forall N \geq N_c, c h(N) \leq T(N) \leq c h(N)$$

~~$T(N) = O(h(N))$ if for all positive constants c there~~

~~exists N_0 such that $T(N) \leq c h(N)$ for all $N > N_0$.~~

~~$T(N) = \Omega(h(N))$ if for all positive constants c there~~

$T(N) = \Omega(h(N)).$

~~$T(N) = \Theta(h(N))$ if for all positive constants c there~~

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$T(N) = \Omega(h(N)).$

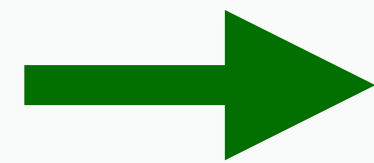
~~$T(N) = \Theta(h(N))$ if for all positive constants c there~~

~~$T(N) = O(h(N))$ if for all positive constants c there~~

~~exists N_0 such that $T(N) \leq c h(N)$ for all $N > N_0$.~~

~~$T(N) = \Omega(h(N))$ if for all positive constants c there~~

$T(N) = \Omega(h(N)).$



~~$T(N) = o(h(N))$ if for all positive constants c there~~

~~exists N_0 such that $T(N) < c h(N)$ for all $N > N_0$.~~

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