Recurrence Relations

Given a kth order recurrence of the form $a_n = x_1 a_{n-1} + x_2 a_{n-2}$, what is:

i The characteristic polynomial:

ii The closed form solution:

Theorems

"I.C. Theorem":

Bezout's Theorem:

Corollary to Bezout's Theorem:

The Euclidean Algorithm:

"Important" Theorem:

Prime Importance:

Fundamental Theorem of Arithmetic:

i $(a, b) =$

ii $[a, b] =$

Modular Arithmetic

Congruence:

Cancellation Theorem:

Wilson's Theorem:

Fermat's Theorem:

Euler's Totient Function:

i What does it tell use?

ii How do we calculate it?

Euler's Theorem: