

Discrete Mathematics

Induction and Recursion

Pangyen Weng, Ph.D
Metropolitan State University

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Building Sequence from Previous Terms

Geometric Sequences

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Example.

3, 6, 12, 24, 48, 96, ...

Arithmetic Sequences

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3, 5, 7, 9, 11, 13, ...

Recurrence Relations

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2. $b_1 = 1, b_n = 2 + b_{n-1}, n \geq 2.$
3. $f_0 = 0, f_1 = 1,$
 $f_n = f_{n-1} + f_{n-2}, n \geq 2.$

Exercise

Find the first 8 terms for

$$g_1 = g_2 = 2$$
$$g_n = 5 - g_{n-1} \cdot g_{n-2}, n \geq 3.$$