

1/2 Chap 8. Recur. relation & Relations

Chap 9. Binary

$a_n = f(a_{n-1})$ 7/24-13 a 2/2/22

$a_n = (1+r)a_{n-1}$ with a_0 $\leftrightarrow a_n = 2^{n+1} \cdot 7$ 7/24 (2/2/22)
 $P \Rightarrow Q$

$f_n = f_{n-1} + f_{n-2}$ with $f_0 = 0, f_1 = 1$

$h_n = 2h_{n-1} + 1$ $\rightarrow p_n = 2 \cdot p_{n-1} + 0$ with $p_0 = 1$

~~$2 = r - 2 = 0 \therefore r = 2$~~

$p_n = \alpha 2^n$ $p_0 = 1$ $p_0 = \alpha 2^0 = 1$
 $\therefore \alpha = \frac{1}{2}$
 $p_n = 2^{n-1}$

Ex 5 ~~$a_n = 6a_{n-1} - 9a_{n-2}$~~

$a_n = 6a_{n-1} - 9a_{n-2}$ $a_0 = 1, a_1 = 1$

$x^2 - 6x + 9 = 0$

$(x-3)^2 = 0$ $x = 3$ -7/2

$a_n = \alpha 3^n + \beta n 3^n$ -7/2 See Excel file

Chap 9. Relations

① $A \subseteq A \times B$ $(a,b) \in R$

② $R: (A \times B) \rightarrow \{T, F\}$ $a R b$

③ $R: A \rightarrow 2^B$ $R(a) = \{b_1, b_2, \dots, b_n\}$