1. Assume an = -infinity for n < 0

a0 = 1

an = an-1 + an-2 + an-5 + an-10 + an-20 + an-50 + an-100

10. a) Ln = (1/2)Ln-1 + (1/2) Ln-2

b) The characteristic equation is r2 – (1/2)r – (1/2) = 0

The solutions are r = 1 and r = -(1/2)

The general solution of the recurrence is Ln = c + d(-1/2)n

L1 = 100,000 = c – d/2

L2 = 300,000 = c + d/4

d = 800000/3

c = 700000/3