Ryan Erickson

Spring 2014

22C:019 Homework 6

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4a. a\_n = (12/5)((3)^n)+(3/5)((-2)^n)

4e. a\_n = 2(1^n)+3(-1)^n

8a. L\_n is the lobsters caught. n is the year

L\_n = ((L\_(n-1)+L\_(n-2))/2)

8b. L\_n = (700000/3)(1^n)+(800000/3)(-1/2)^n

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4a. not reflexive; not symmetric; anti-symmetric; transitive

4d. reflexive; symmetric; not anti-symmetric; not transitive

6d. not reflexive; not symmetric; anti-symmetric; not transitive

6f. not reflexive; symmetric; not anti-symmetric; not transitive

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12. (9191,2,80,4)

16.

|  |  |  |
| --- | --- | --- |
| **Airline** | **Flight number** | **Destination** |
| Nadir | 122 | Detroit |
| Acme | 221 | Denver |
| Acme | 122 | Anchorage |
| Acme | 323 | Honolulu |
| Nadir | 199 | Detroit |
| Acme | 222 | Denver |
| Nadir | 322 | Detroit |

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2c. M\_R= [ 0 1 1 1

0 0 1 1

0 0 0 1

0 0 0 0 ]

2d. M\_R = [ 0 0 0 0

0 0 0 1

1 1 0 1

0 0 0 0]

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(use pigeonhole principle)

18.

G = (V,E) and |V| >= 2

L = max(deg v)

if v\_1 does not equal V\_0, then V\_1 exists in V such that deg v\_1 = k

if not, then there are k different vertices

f(i,j) = {1,2,3,…,k} such that v\_i = deg v\_j. there always exist two vertices of the same degree

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40.

A B

E C

D