Assignment 2 Solutions

October 2, 2017

(1) (a) To *really* show that the tour given in the figure with total length 18.3 years is an optimal tour, you would need to list all 24 tours and show that 18.3 is the smallest possible length of any tour.

(b) There are several optimal tours. Choose any optimal tour that has total length 18.3 years.

Section 6.2

(1) (a) (1) A,B,D,C,E,F,G,A; (2) A,D,C,E,B,G,F,A; (3) A,D,B,E,C,F,G,A (b) A,G,F,E,C,D,B (c) D,A,G,B,C,E,F

(4) A,B,C,D,E,A; A,B,C,E,D,A and their mirror images.

(16) There is no Hamilton circuit since two vertices only have one edge connected to them. One Hamilton path is F,B,A,E,C,D,G.

(20) (a) B,A,E,C,D weight $= 19$; (b) B,A,C,E,D weight - 25; (c) B,A,E,C,D weight $= 19$

(28) A,B,C,D,A; cost $= 155$

(32) C,A,B,D,C or its reversal (42 km)