

CS 540 HW2 Problem 2

(a) $\frac{(n^2+n)}{2} - n$

(b) ~~$\frac{(n^2+n)}{2} - n$~~ $n!$

(c) (i) $1.1 + 1.4 + 0.5 = 3.0$ ans: 3.0

(ii)

\checkmark $\langle M-W-E-S \rangle$ tour length: $1.1 + 0.6 + 0.5 = 2.2$

$\langle E-\overset{M}{W}-W-S \rangle$ tour length: $1.4 + 1.1 + 0.7 = 3.2$

$\langle \overset{M}{S}-M-E-W \rangle$ $0.9 + 1.4 + 0.6 = 2.9$ tour length: 2.9

$\langle W-E-M-S \rangle$ $0.6 + 1.4 + 0.9 = 2.9$ tour length: 2.9

$\langle W-S-E-M \rangle$ $0.7 + 0.5 + 1.4 = 2.6$ tour length: 2.6

$\langle W-M-S-E \rangle$ $1.1 + 0.9 + 0.5 = 2.5$ tour length: 2.5

(iii) $\langle M-W-E-S \rangle$ is the next state 2.2.

(iv) $\langle W-M-E-S \rangle$

↓

$\langle M-W-E-S \rangle$

↓

$\langle M-S-E-W \rangle$

tour length: 2.0