INF3490 exercises - week 2 2014

Problem 1

Recall all the representations that have been presented. Which mutation and recombination operators are compatible with which representations?

Problem 2

Given a binary chromosome with length 4, calculate the probability that no bits, one bit, and more than one bit will be flipped in a bit-flip mutation with $p_m = \frac{1}{4}$.

Problem 3

Programming:

Given the sequences $(2, 4, 7, 1, 3, 6, 8, 9, 5)$ and $(5, 9, 8, 6, 2, 4, 1, 3, 7)$. Implement these algorithms to create a new pair of solutions:

a)

Partially mapped crossover (PMX)

b)

Order crossover.

c)

Cycle crossover.