Question 2 final 2008:

2-taking the reproductive schema growth of schema theory assume o(s).p(m)=0 and d(s)=m-1 then the equation becomes :
eta(S,t+1)=eta(S,t).eval(S,t)/averagePopF itness(t) [1-Pc]
Discuss the mechanics of the algorithm when Pc=0 and Pc=1 under the following conditions:
a-low population size
b-high population size
c-Elitism

Answer:

1- pc=0 in high pop size, low pop size or elitism will end with the best chrom. in the initial random generation (there is no way to generate new chrom.)

2- pc=1 always Xover happened

   a. -low pop size with or without elitism (because pm=0 there is no way to explor new areas in search space the algorithm will find best solution within initial covered area) and because pop size is small algorithm will converge to local minimum.

   b. high pop size (if we assumed very large pop size it can cover all search space area and the best solution in between the points of initial generation "not point from initial generation but between them")

      without elitism the alogrithm will not converage because Xover will always destory chroms.

      with elitism algorithm will keep good solution so far so algorithm can find good solution.