**5. Describe several mutation methods used in a GA.**

Gaussian mutation. Shuffle indices. Flip bit.

**6. What are some of the crossover methods?**

One point crossover. Two points crossover. Uniform crossover. Ordered crossover.

**7. Provide examples of several selection methods.**

Proportional selection scheme. Tournament selection scheme (only cares order).

**8. What is a chromosome? Comment on its makeup.**

In genetic algorithms, a chromosome (also sometimes called a genotype) is a set of parameters which define a proposed solution to the problem that the genetic algorithm is trying to solve.

**9. If the rate of mutation is increased too much, how might it affect the search? What might happen to the search it the mutation rate is decreased too much?**

Mutation rate being too high: Risks of not being able to converge. Mutation rate being too low: not enough exploration of better solutions. Risk of getting stuck at local optima (premature).