

INF3490/INF4490 - Week 2

Representations

August 27, 2018

\mathbb{P} marks the programming exercises, we strongly recommend using the python programming language for these. Exercises may be added/changed after publishing.

1 Representations

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

2 Bit flip mutation

Given the 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 $p_m = \frac{1}{4}$.

\mathbb{P} 3 Crossover

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:

- Partially mapped crossover (PMX).
- Order crossover.
- Cycle crossover.

Contact

The exercises are the same as those in the **GitHub repository**. If there are any suggestions to corrections of grammar, language or any additional suggestions, we appreciate all feedback! The TA's can be reached at lonnekes@ifi.uio.no, hermankn@ifi.uio.no, a.s.skage@econ.uio.no or sharanak@ifi.uio.no