Chapter 1

Basics

1.1 Wright-Fisher model and Kingman's Coalesce

1.1.1 W-F model

Basic assumptions of the Wright Fisher model

- non-overlapping generations
- constant population size
- panmictic
- neutral (i.e. no selection)
- no recombination
- N diploid individuals population of $2N$ haploid alleles
  (in case of autosomal DNA)

Each allele chooses an ancestor in the generation before.

Samples are assumed to be taken purely randomly from the population.

This induces a specific random distribution for the genealogies of the sampled alleles.

Haploid population of size N_e

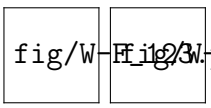

Figure 1.1: simulated W-F population