Universität Bielefeld
Technische Fakultät

AG Genominformatik
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Algorithms in Genome Research
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Exercises

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1. What is the difference between linkage and association?

2. Let the following haplotype matrix be given (circles represent the presence of a mutant allele):

	1	2	3	4	5	6	7	8	9	10
A	O			O	O	O			O	O
B			O				O			
C	O	O			O	O		O	O	O
D			O				O			
E	O	O				O			O	
F			O			O		O		

   (a) Find the maximal regions around each segregating site, not violating the four-gametes test.

   (b) Draw the local trees of the segregating sites.

   (c) Assume that individuals C and E are the cases, the other the controls. Which of the segregating sites show highest evidence for association with the disease?

3. Discuss: Can pedigree (family) information help in the analysis of whole-genome association studies?