Topics for Week of November 1st, 1999

Counting I
F97 Lec Notes 14, Rosen 5.5-6, 4.3

- Computing the cardinality of unions of sets
  - Disjoint Sets (the sum rule)
  - Overlapping Sets (inclusion-exclusion principle for n sets)
- Computing the cardinality of products of sets(the product rule)
- Combination of sum and product rules (tree diagrams)
- Permutations
- Using permutations to lower bound the running time of algorithms
- r-permutations
- Sieve of Eratosthenes
- Dearrangements