# Outline for Lecture 6

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1. Definition
   - Turing tableaux
   - input vs. work tape
2. Nondeterministic/probabilistic
   - Exists, forall and for many
   - Problem with space
   - P, NP, PSPACE, logspace
3. Is this a reasonable Definition
   - Extended Church-Turing thesis
   - Time not preserved by counter machines
   - Space complexity is preserved by counter machines
4. Hierarchy theorems
   - Machines with guaranteed resource bounds
   - Time/Space constructibility
   - Time
   - Space
   - NTIME - skip until next class
   - What about BPP
5. Containment Theorems
   - Time vs. Time
   - Space vs. Space
6. Relations
   - Ntime vs. time
   - Nspace vs. space
   - Savitch's Theorem