* What is Intelligence?
  + Reason
  + Acting
  + Making a choice
  + Acting
  + Justified choice
  + Information management/sorting/filtering
  + Apply knowledge
  + Self aware 🡪 consciousness
  + Think 🡪 symbolic problem solver
  + Creativity
  + Learn
  + Conformity to an external standard of truth
  + Abduction(pull facts together, then conclude something more that what the facts support), induction
  + Solve problems that they have never faced before
* Then are the following intelligent?
  + Dog
* Board:
  + Getting it Moving
    - Reactive agents
    - (HW, Search Presentations)
  + PD Control
    - Physics 121
    - Managing error
  + Potential Fields
    - Ski to goal
    - (delta sign) or ds=
    - fields
  + Lab#1
* \* We are not just biochemical machines
* Newton
  + F = ma
  + Stuff stays still
  + Every action has an equal and opposite action
* Board:
  + Potential Fields
    - Attractive (vs. Gravity wells)
    - Repulsion
    - Tangential
  + Rationality!?
  + Frameworks
    - PEAS – symbolic Sym Proc
    - CSA - Brooks
  + Agent Types
    - Group Work
* Search Fun
  + Greedy
    - Sorted by h(n)
    - Heuristic
      * Help us make decision with incomplete information
      * Admissibility: don’t over estimate!
      * How to find?
        + Remove some constraints – you can walk through walls
        + Absolver
        + Combinging
        + Solving subproblems
        + Machine learning
    - Optimal
      * No
    - Complete
      * Infinite spaces
        + No for either a tree search or a graph search
      * Finite spaces
        + Yes for a graph search
        + No for a tree search – it can get stuck
    - Advantages
      * Easy to implement
      * Complete, if it keeps track of where it has already been
    - Disadvantages
      * Not all problems leand themselves to looking ahead exactly one step
      * If no good heuristic is know, thae algorithm quickly becomes naïve
      * Not ver ‘autonomous,” , a lot of human insight required
    - Time and Space Complexity
      * 2^n, n is the depth of the tree
      * O(b^m), where m is the maximum
        depth of the search space.
  + A\*
    - No other optimal algorithm is guaranteed to expand fewer nodes than A\*. On all problems and using the same h(n).
    - Assumtions:
      * Could be multiple goals
    - Huristic
      * Never overestimates the actual optimal cost
      * Optimal cost to go
  + IDA\*