what is state

that in the present
of that in the past
which affects that of the future

defining state

two problems:
• too little state
  elements missing from specification
  may be deliberate
  e.g. dialogue level spec.
• too much state
  too many states, too complex state
  may be deliberate
  redundancy, extensibility

too little state

• forgotten elements
  e.g. ‘typing’ flag for calculator
• checking:
  − dialogue state
    can you work out current dialogue state?
  − action specification
    do you have enough information?
  − implicit global variables (see also later)
    suggest state missing

too much state

• unreachable states
  too few actions (see later)
  constraints
  states are not orthogonal
• spare variables: constant/functional dependent
• dependent state
  e.g. first point of line, number being typed
• indistinguishable states
  what is observable?

defining actions

• framing problems
  = too little in result state
• unreachable states
  = insufficient actions
• using ‘global’ variables
  implicit in operation definition
• beware extreme cases
  (e.g. empty document, cursor at end of line)