

is there a way?

Queen has a will  
will.Date = 2022

RAP Date  
2122

○  
Prince George turns 21  
gets married  
<> (falls in love)  
and [] (has a baby)

○  
Princess Leia turns 21  
gets married  
<> (falls in love)  
and [] (has a baby)

○  
Prince Ned turns 21  
gets married  
<> (falls in love)  
and [] (has a baby)

○  
Princess Sally turns 21  
and  
wants the  
house

Yes  
Princess Sally  
gets a house

We could model this as a timed automaton, and solve the planning problem using a model checker:

○  
Prince George turns 30  
gets married  
<> (falls in love)  
and [] (has a baby)

○  
Princess Leia turns 30  
gets married  
<> (falls in love)  
and [] (has a baby)

○  
Prince Ned turns 30  
gets married  
<> (falls in love)  
and [] (has a baby)

○  
Princess Sally turns 21  
and  
wants the  
house

No  
Princess Sally  
exceeds the 100  
year limit

- Does the Queen actually have the right to give away all of her 24 estates, or does Edward VII's will interfere with any of them?
  - Answer: we know that Edward VII died > 100 years ago, therefore there is no more uncertainty and anything we think we own, we do own.
  - Question formalized: Before 2010 did any of Edward VII's gifts operate? Did his will give away some property? If it did, we expect would know by now, by 2022.
  - If Edward VII tried to give away anything after 2010 the RaP would strike it out.
- What is Princess Sally's date of birth? Is it within 2022 + 79? If she is born before 2101, she is entitled to the house, otherwise she is not.
- Planning problem: how long more can I wait to get on Tinder and fall in love?

- Let's formalize the Rule Against Perpetuities. We assume there is no change to the Rule Against Perpetuities: e.g. we assume the cap=100 doesn't become cap=80.
- We assume the properties are not sold or confiscated or invaded by Putin in the meantime.  
In fact the properties cannot be sold by George or Leia or Ned because they don't own it. The property is pending the gift to the great-grandchild of George.

- GIVEN will.Date:N
  - IF option.exercise.Date – will.Date >= 100      valid(option) :- option.exercise.Date – will.Date < 100.
  - THEN invalid(option)

- SCENARIO 21
  - issueAge(George, 21, Leia)
  - issueAge(Leia, 21, Ned)
  - issueAge(Ned, 21, Sally)

- SCENARIO 30
  - issueAge(George, 30, Leia)
  - issueAge(Leia, 30, Ned)
  - issueAge(Ned, 30, Sally)
- in what year will it be evident that Sally won't get the house?

- Planning Problem
  - issueAge(George, 21, Leia)
  - issueAge(Leia, 25, Ned)
  - issueAge(Ned, Y, Sally)
- What is the maximum age that Ned can have Sally?
- $Y \leq 79 - 21 - 25 - 21$

edwardVII.option.date(0D).

edwardVII.option.date(0D) :- 0D < 2110.

rapJudgement(edwardVII.option, invalid, dueToRAP, asOfTime) :-  
  certain(asOfTime,  
    possibleForPrincessToGetIt(Sally, D, asOfTime),  
    D < edwardVII.death.date + 100.

possibleForPrincessToGetIt(Sally, D, asOfTime) :-  
  birth(Sally, B), D – B >= 21.

rule34(edwardVII.option, not invalid, asOfTime) :-  
  rapJudgement(edwardVII.option, invalid, dueToRAP, asOfTime),  
  possibleForPrincessToGetIt(Sally, asOfTime).

overrides(rule34, rapJudgement).

Where, apart from the provisions of this section, a disposition consisting of the conferring of any power, option, or other right would be invalid as infringing the rule against perpetuities, the disposition shall be treated as regards any exercise of the right within the perpetuity period as if it were not so invalid and, subject to the provisions of this section, shall be treated as invalid as infringing the rule against perpetuities only if and so far as the right is not fully exercised within that period.

- Let's formalize the Rule Against Perpetuities using a CTL\* logic.
- getsHouse(Sally) :- ~ option.exercisedBy(Sally) U option.exercisedBy(Sally) U rap.date

futures:  
option.valid      R      F(  
    issueAge(George, GL, Leia )  
    && F(  
        issueAge(Leia, LN, Ned )  
        && F(issueAge(Ned, NS, Sally)  
            && X^21(rap.date)      )))

- Let's formalize the Rule Against The Rule Against Perpetuities.

"Acme shall keep the info confid" v. "Acme shall pay the purchase price."  
One ongoing, other transient.  
Linguists, how describe these verbs?

AG ( Ob (~ disclose ) ).

AF ( Ob (payPrice) ).