TERMINOLOGY

event 0 = "begin" node
event 1 = cafe / brewhouse
event 2 = next layer (2 nodes, unpredictable)
event 3 = next layer (2 nodes, predictable)
event 4 = next layer (2 nodes, predictable)

(there's no need for an end node)

KEY ASSUMPTIONS

use different betas for across-story and within-story transitions

prediction should be based only on the active schema (so, **modify equation 5** to not marginalize across schemas) -- just compute the likelihood based on the current schema

for evaluating model performance and matching to human data, only compute prediction accuracy for the "predictable" events (3 and 4)

set S equal to the number of "possible" states at each timepoint = 2

WHAT HAPPENS AT EACH STAGE OF A STORY

note: do not simulate the "arrival" into event 0 -- each story should start with the arrival into event 1

arriving at event 1

predict event 1 (using S = 2, and the current zhat) with modified equation 5, which depends on equation 4

observe event 0 => event 1 transition

do schema inference (using **across-story beta** for prior, S = 2, and the current zhat) using equation 3, which depends on equation 4

record the most probable schema as zhat using equation 6

arriving at event 2

predict event 2 (using S = 2, and the current zhat) with modified equation 5, which depends on equation 4

observe event 1 => event 2 transition

do schema inference (using **within-story beta** for prior, S = 2, and the current zhat) using equation 3, which depends on equation 4

record the most probable schema as zhat using equation 6

arriving at event 3

predict event 3 (using S = 2, and the current zhat) with modified equation 5, which depends on equation 4

observe event 2 => event 3 transition

do schema inference (using **within-story beta** for prior, S = 2, and the current zhat) using equation 3, which depends on equation 4

record the most probable schema as zhat using equation 6

arriving at event 4

predict event 4 (using S = 2, and the current zhat) with modified equation 5, which depends on equation 4

observe event 3 => event 4 transition

do schema inference (using **within-story beta** for prior, S = 2, and the current zhat) using equation 3, which depends on equation 4

record the most probable schema as zhat using equation 6

note that the process is basically the same at all events except you use the across-story beta when arriving at event 1 and the within-story beta when arriving at events 2, 3, 4