1. Grounding Agent: Reasoning-driven Schema Identification Grounding Agent π_{Gr} What is the unabbreviated mailing street address of the Question 0 school with the highest FRPM count for K-12 students? <think> ... <\think> CREATE TABLE frpm (CDSCode CREATE TABLE frpm (CDSCode integer, `Academic integer, `FRPM Count (K-Year `integer, ...) 12) text) CREATE TABLE satscores (cds text, rtype text, enroll12 integer...) Selected Observation ω CREATE TABLE schools (MailStreet text, **Database** Schema S' NCESDist text, County text...) 2. Generation Agent: Multi-turn Trajectory Generation Action *a* (Execution) Candidate Solution N <solution>SELECT Round 1 Trajectory N, τ_N T1.MailStreet FROM schools ... <\solution> Round M- $^{\prime}$ <solution>SELECT Trajectory 1, τ_1 Generation Agent π_{Gen} Candidate Solution 1 T2.MailStreet FROM Round M frpm ... <\solution> Think h_M N Rollouts Generative Probability 3. Validation Agent: Verification and Selection SELECT T1.MailStreet FROM schools $V(\tau_1)$: 0.5 "Is the answer correct (Yes/No)?" SELECT T2.MailStreet FROM frpm .. $V(\tau_n)$: 0.8 Validation Agent π_V ^Ufinal