

Viper – The Hall of 100 Reflections

Inside the Hall of 100 Reflections, Viper runs a self-improvement simulation that tracks her agility score as she completes each phase of training.

But every time she checks her results, the main score stays the same — even though each training reflection shows the correct updated value.

She later learns that within each reflection, a new temporary “agility” variable was created with the same name as the main one. Each reflection updated the **temporary** number instead of the real one.

Your task:

Explain the concept of variable shadowing using this scenario, describe the symptoms that appear when shadowing happens, and propose debugging methods to trace which variable is being updated at each stage of a complex multi-scope system.