CONSILIUM

PROBLEM STATEMENT

Pseudo-random access codes

You're tasked with designing a secure access system for a high-tech facility. The system requires generating “Pseudo-random access codes” for authorized personnel to enter restricted areas. However, traditional random number generators are either too slow or not sufficiently secure for the level of protection needed.

By leveraging digital electronics principles, you aim to create a system capable of generating access codes that appear random within a predefined range but are deterministically reproducible.

The system should allow administrators to specify the length of the access code sequence, offering flexibility based on security requirements. Additionally, the generated codes must be sufficiently unpredictable to prevent unauthorized access.
Maximum length of bits allowed: 9

1:- Give a write-up briefly describing how the circuit is working (Typed or Handwritten) up to 1-2 Pages.
2:- Simulate the Circuit you have designed on Proteus Simulation Software.
3:- Write a Verilog Code for designed circuit.

The output is in the form of a binary number.

Rules:

Using unfair means to solve the PS will result in the disqualification of the entire team.

Using ROM is Strictly prohibited.

Write-up is compulsory for everyone.

The viva will take place at the conclusion of the deadline.