**Assignment 1: Heartbeat Implementation.**

**Objectives:**

This homework makes you familiar with design and implementations of architectural tactics. An important goal of this assignment is to emphasize that designing architecture is important but implementing the design, testing and maintaining the design decisions are critical.

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You are supposed to implement “Heartbeat” Tactic. The implementation is minimum prototyping of the tactic than full implementation of a system.

Please consider the following items:

1. Develop a critical process ( with minimum functionality)
2. Design a Non-deterministic failure in this process which makes it crash.
3. Implement Heartbeat to monitor the process
4. Your heartbeat implementation should have all the required fault detection features.

**Rule 1:** Do not embed a failure in a static if statement. The failure must be random and it must cause the process crash, avoid making the process sleep.

**Rule 2:** Implement send/receive/monitoring functions on different processes

**Rule 3:** Select a relevant domain: Monitoring connections, Monitoring process, …

**You are free to choose any programming languages. You can use the existing frameworks or implement from scratch.**

**Deliverables:**

* Runnable Source Code
* Read me file including guidance on how to run the code, list of frameworks used.
* Documentations if necessary