

# Deadlock Detection & Analysis Report

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Automated Deadlock Detection System  
Version 1.0  
Advanced Analysis Report

## Executive Summary

■ DEADLOCK DETECTED

Metric	Value
Total Processes	5
Total Resources	5
Active Allocations	5
Pending Requests	5
Detected Cycles	1
Detection Time	0ms
ML Risk Score	100.0%

# System Overview

## Processes

PID	Name
0	Philosopher_0
1	Philosopher_1
2	Philosopher_2
3	Philosopher_3
4	Philosopher_4

## Resources

Resource ID	Total Instances
F0	1
F1	1
F2	1
F3	1
F4	1

## Deadlock Detection Results

### Deadlock Detected!

Found 1 circular wait cycle(s) in the system.

Detection Time: 0ms

### Detected Cycles:

- Cycle 1:  $0 \rightarrow 1 \rightarrow 2 \rightarrow 3 \rightarrow 4 \rightarrow 0$

## Machine Learning Prediction

**Deadlock Probability:** 100.0%

**Risk Level:** CRITICAL

## Recommendations

- Immediate action required: Apply recovery strategy
- Consider process termination or resource preemption
- Review resource allocation policies
- Implement deadlock prevention strategies:
  - Lock ordering
  - Timeout mechanisms
  - Resource quotas