

## **Abstract**

**Learning Management System is a system that helps lecturers in managing teaching and learning activities independently in educational institutions. LMS is a learning management system at Telkom University which was developed based on Moodle. This research was carried out by process mining on the event log from the LMS in the Programming Algorithm course for the even semester 2021/2022 academic year. The process mining method is used to determine the learning patterns of students who pass and do not pass during online lectures by looking at student patterns described in a process model, so that lecturers can find out student learning patterns during lectures using LMS. The implementation of the heuristic miner algorithm uses Process Mining for Python (PM4Py). After getting the process model, conformance checking is carried out with the results of the fitness value, students who pass get a fitness value of 0.98461 and for students who do not pass get a fitness value of 0.98535. Although the precision value produced is not good enough, namely, students who pass get a precision value of 0.18111 and for students who do not pass get a precision value of 0.27291, indicating the results are not perfect or underfitting, the behavior of the resulting process model does not describe the existing behavior. on the event log in general. Then the generalization value generated shows a fairly good value. students who pass get a generalization value of 0.70013 and for students who do not pass get a generalization value of 0.57563. This research is expected to contribute a new perspective on the implementation of the mining process for certain subjects using the heuristic miner algorithm.**

**Keywords : *Learning Management System (LMS), Process Mining, Heuristic Miner, Conformance Checking, PM4PY***