

ABSTRAK

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Judul : Menyelesaikan *Stable Marriage Problem (SMP)* menggunakan *Algoritma Gale-Shapley (GS)* dan *Algoritma Random Order Mechanism (ROM)*

Penempatan petugas merupakan salah satu hal yang penting dalam proses pencapaian tujuan dimana penempatan petugas yang baik akan menghasilkan pencapaian kinerja yang maksimal. Pencapaian kinerja yang maksimal dapat dihasilkan dengan adanya keseimbangan antara kebutuhan sebuah tugas dan keinginan petugas. Permasalahan tersebut merupakan suatu masalah pada *Stable Matching Problem (SMP)* atau dapat disebut *Stable Marriage Problem (SMP)*. Dalam *Stable Marriage Problem (SMP)* terdapat beberapa Algoritma, diantaranya Algoritma *Gale-Shapley (GS)* dan Algoritma *Random Order Mechanism (ROM)*. Algoritma *Gale-Shapley (GS)* melakukan pencocokan secara terurut kemudian dilakukan langkah melamar, menerima, membandingkan dan menolak pada tabel penugasan. Sedangkan pada Algoritma *Random Order Mechanism (ROM)* terdapat proses inialisasi dimana inputan awal (petugas) dipilih secara acak dengan melakukan langkah yang sama seperti pada Algoritma *Gale-Shapley (GS)* dan berakhir ketika semua sudah berpasangan. Berdasarkan hasil penelitian, dapat diketahui untuk data seimbang (*balanced*) berukuran 3x3 pada Studi Kasus 1, Studi Kasus 2 dan Studi Kasus 3 menghasilkan pencocokan yang sama dengan menggunakan Algoritma *Gale-Shapley (GS)* dan Algoritma *Random Order Mechanism (ROM)*.

Kata Kunci: Algoritma *Gale-Shapley (GS)*, Algoritma *Random Order Mechanism (ROM)*, Masalah Penugasan, *Stable Marriage Problem (SMP)*.

ABSTRACT

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Title : *Solving Stable Marriage Problem (SMP) using Algorithm Gale-Shapley (GS) and Algorithm Random Order Mechanism (ROM)*

Placement of officers is one of the important things in the goal process where the placement of good officers will result in maximum crime performance. Maximum performance achievement can be produced with a balance between the needs of a task and the wishes of the officer. This problem is a problem in the Stable Matching Problem (SMP) or can be called the Stable Marriage Problem (SMP). In the Stable Marriage Problem (SMP) there are several algorithms, including the Algorithm Gale-Shapley (GS) and the Algorithm Random Order Mechanism (ROM). The Algorithm Gale-Shapley (GS) performs sequential matching and then applies, accepts, compares and rejects steps in the assignment table. Whereas in the Algorithm Random Order Mechanism (ROM) there is an initialization process where the initial input (staff) is chosen randomly by doing the same steps as in the Algorithm Gale-Shapley (GS) and ends when all are paired. Based on the research results, it can be seen that the 3x3 balanced data in Case Study 1, Case Study 2 and Case Study 3 produce the same matching using the Algorithm Gale-Shapley (GS) and the Algorithm Random Order Mechanism (ROM).

Keywords: *Algorithm Gale-Shapley (GS), Algorithm Random Order Mechanism (ROM), Assignment Problem, Stable Marriage Problem (SMP).*