Abstract

Modern operating systems use virtual memory concept because of its advantages but they use different page replacement techniques. An efficient page replacement technique is required so
as to produce minimum number of page faults. Some of the page replacement techniques are FIFO, LRU, OPTIMAL etc. Optimal has been proven to be best producing minimum number of page faults. LRU approximates optimal. Considerable research has been done to evaluate these policies and to develop new ones based on recency, frequency, token, and locality model parameters etc. This paper uses a histogram based approach to compare FIFO, LRU, LRU2, OPTIMAL policies. Simulation results show that histograms for all policies equalize as the number of frames increases. Also histogram for optimal policy equalizes more rapidly than other policy’s histograms. Also pages of large frequency of occurrences contribute much to the total number of page faults in both LRU and optimal page replacement algorithms.

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Index Terms

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