

Algorithm Design
M. T. Goodrich and R. Tamassia
John Wiley & Sons
Solution of Exercise C-14.10

Consider a sequence where page 1 is accessed m times and then never accessed again, and then pages 2 through $m + 1$ are each accessed once and then this same access sequence of pages 2 through $m + 1$ is repeated. The LFU algorithm will never throw out page 1; hence, will have a page miss on every access, starting with page $m + 1$. But an optimal algorithm will throw out page 1 and then never have any more page misses after the misses for the first time pages 2 through $m + 1$ are accessed.