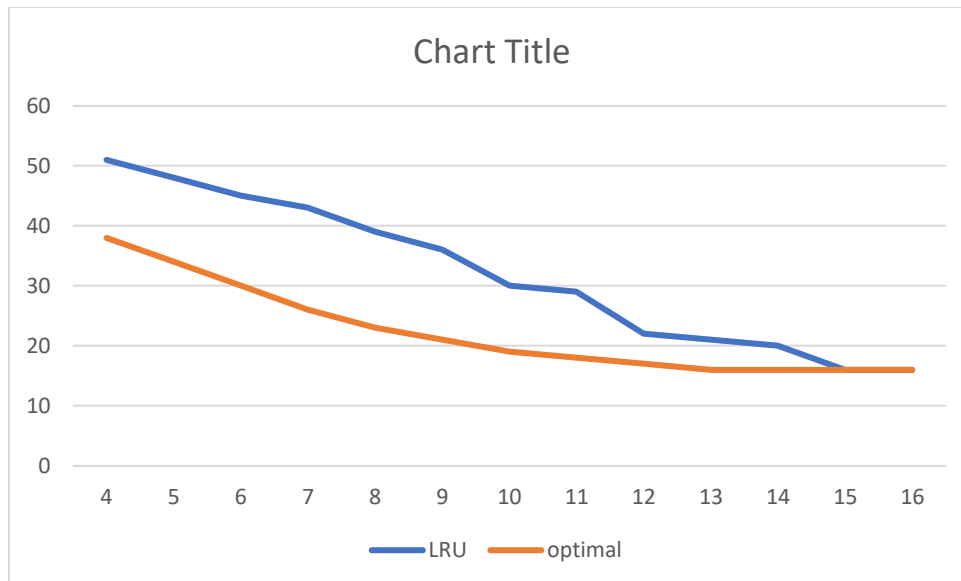


f	LRU	optimal
4	51	38
5	48	34
6	45	30
7	43	26
8	39	23
9	36	21
10	30	19
11	29	18
12	22	17
13	21	16
14	20	16
15	16	16
16	16	16



My outcome exhibits the Belady's anomaly.

The LRU and optimal are both stack-based algorithms i.e. it can be shown that the set of pages in memory for f frames is always a subset of the set of pages that would be in memory with $f + 1$ frames. In LRU algorithm, we replace page that has not been used in the most amount of time (i.e. maximum backward distance on page trace). In Optimal algorithm, we replace page that will not be used for longest period of time (i.e. measured by the maximum forward distance on page trace). However, in FIFO, the priority is due to the positions of each frame in the physical memory. It is not a stack-based algorithm.

Therefore, the page we replace is to some degree the least likely to be used again. And the Belady's anomaly will be avoided.