P = 256 byte (page size)

VAS = 16 pages

PAS = 8 frames

TLB = 4 entries

RS: 783, 2872, 787, 2159, 1348, 3747, 2063, 612, 2419, 2637, 1329, 1223, 1828

frame number for page 3 is missing in the TLB

virtual address 783 contained in page 3 causes a page fault

page 3 is loaded into frame 0

frame 0 containing page 3 is stored in entry 0 of the TLB

frame number for page 11 is missing in the TLB

virtual address 2872 contained in page 11 causes a page fault

page 11 is loaded into frame 1

frame 1 containing page 11 is stored in entry 1 of the TLB

page 3 is stored in frame 0 which is stored in entry 0 of the TLB

frame number for page 8 is missing in the TLB

virtual address 2159 contained in page 8 causes a page fault

page 8 is loaded into frame 2

frame 2 containing page 8 is stored in entry 2 of the TLB

frame number for page 5 is missing in the TLB

virtual address 1348 contained in page 5 causes a page fault

page 5 is loaded into frame 3

frame 3 containing page 5 is stored in entry 3 of the TLB

frame number for page 14 is missing in the TLB

virtual address 3747 contained in page 14 causes a page fault

page 14 is loaded into frame 4

frame 4 containing page 14 is stored in entry 1 of the TLB

page 8 is stored in frame 2 which is stored in entry 2 of the TLB

frame number for page 2 is missing in the TLB

virtual address 612 contained in page 2 causes a page fault

page 2 is loaded into frame 5

frame 5 containing page 2 is stored in entry 0 of the TLB

frame number for page 9 is missing in the TLB

virtual address 2419 contained in page 9 causes a page fault

page 9 is loaded into frame 6

frame 6 containing page 9 is stored in entry 3 of the TLB

frame number for page 10 is missing in the TLB

virtual address 2637 contained in page 10 causes a page fault

page 10 is loaded into frame 7

frame 7 containing page 10 is stored in entry 1 of the TLB

frame number for page 5 is missing in the TLB

page 5 is contained in frame 3

frame 3 containing page 5 is stored in entry 2 of the TLB

frame number for page 4 is missing in the TLB

virtual address 1223 contained in page 4 causes a page fault

page 4 is loaded into frame 1

frame 1 containing page 4 is stored in entry 0 of the TLB

frame number for page 7 is missing in the TLB

virtual address 1828 contained in page 7 causes a page fault

page 7 is loaded into frame 0

frame 0 containing page 7 is stored in entry 3 of the TLB

The reference string generated 10 page faults in memory and the TLB hit ratio is 2 out of 13.

The contents of page table after simulation:

p2 in f5

p4 in f1

p5 in f3

p7 in f0

p8 in f2

p9 in f6

p10 in f7

p14 in f4

The contents of memory after simulation:

f0 contains p7

f1 contains p4

f2 contains p8

f3 contains p5

f4 contains p14

f5 contains p2

f6 contains p9

f7 contains p10

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