

(A) Direct-addressed Memory

Program

Input (0, 2, 0)

Set-2 (1, 3, 2)

Mult (0, 1, 3)

Output (3, 3, 0)

Virtual Hardware

Memory

[0]: 16

[1]: 2

[2]: 0

[3]: 32

(B) Tag-accessed Memory

Program

Input (1000, 0111, 0010)

Set-2 (0101, 0110, 1111)

Mult (0000, 1101, 1110)

Output (0110, 1110, 1001)

Virtual Hardware

Memory

[0000]: 16

[0101]: 2

[0011]: 0

[0110]: 32