Example 1 $A = 1100$, $B = 1011$

$$\begin{array}{r} 12 \\ \times\ 11 \\ \hline 132 \end{array} \rightarrow 10000100 \Rightarrow C$$

W ← working register

① Load A, B,
Clear W, C

$A = 00001100$
$B = 1011$ (1)

↖ bit testing

② BRZ = Ø ⇒ (bit testing)

BRØ = 1 ⇒ $W = S = AR + W = 00001100$

$AR = 00011000$ shift to the left (←)

$BR = 0101$ (1) shift to the right (→)

③ BRZ = Ø ⇒ BRØ = 1 ⇒

$$\begin{array}{r} 00001100 \\ +\ 00011000 \\ \hline 00100100 \end{array}$$

$AR = 00110000$ (←)

$BR = 0010$ (0) (→)

④ BRZ = Ø ⇒ BRØ = 0

$AR = 01100000$ (←)

$BR = 0001$ (1) (→)

⑤ BRZ = Ø → BRØ = 1 → $W = S =$

$$\begin{array}{r} 00100100 \\ +\ 01100000 \\ \hline 10000100 \end{array}$$

$AR = 11000000$ (←)

$BR = 0000$ (0) (→)

⑥ BRZ = 1 → $C = W = 10000100$

Example 2

A = 0101
B = 1101

5 × 13 = 65

01000001 ← C

① Load A, B
Clear W, C

AR = 00000101 ; W = 00000000
BR = 1101

② BRZ = 0 ⇒ BRO = 1 ⇒ W = S = AR+W = 00000101

AR = 00001010
BR = 0110

shift to the left
shift to the right

③ BRZ = 0 ⇒ BRO = 0

AR = 00010100
BR = 0011

④ BRZ = 0 ⇒ BRO = 1 ⇒ W = S = AR+W = 00010100
00000101
00011001

AR = 00101000
BR = 0001

⑤ BRZ = 0 ⇒ BRO = 1 ⇒ W = S = AR+W = 00101000
00011001
01000001

AR = 01010000
BR = 0000

⑥ BRZ = 1 ⇒ C = W = 01000001