General Multiplication Algorithm

Obtain the double-length product of a pair of N-bit unsigned integers.

MPR: Multiplier Register **MND**: Multiplicand Register **ACC**: Accumulator Register
The algorithm treats **ACC** as a high-end extension of **MPR**

```
MPR ← multiplier
MND ← multiplicand
ACC ← 0

for (int k = 1;    k <= N;    k++)
{
    if ( MPR[0] )                    //Test
        ACC ← ACC + MND              //Add

    ShiftRight( ACC: MPR )           //Shift
}
```

Double-length product is available in **ACC**:**MPR**

Example Trace with BYTE (8-bit) integers

`30 (0001 1110) x 17 (0001 0001) = 510 (0000 0001 1111 1110)`

Iteration		ACC	MPR	MND
0: LOAD		0000 0000	0001 0001	0001 1110
1:			?	
	ADD	0001 1110	0001 0001	
	SHR	0000 1111	0000 1000	
2:			?	
	SHR	0000 0111	1000 0100	
3:			?	
	SHR	0000 0011	1100 0010	
4:			?	
	SHR	0000 0001	1110 0001	
5:			?	
	ADD	0001 1111	1110 0001	
	SHR	0000 1111	1111 0000	
6:			?	
	SHR	0000 0111	1111 1000	
7:			?	
	SHR	0000 0011	1111 1100	
8:			?	
	SHR	0000 0001	1111 1110	