



The Exclusive Or instruction performs a logical bit by bit “exclusive or” between a register and a fullword in memory. Operand 1, the target, is a register and Operand 2, the source, specifies a fullword in memory. The fullword in memory is exclusive or-ed internally with the fullword in the register and the result is placed in the register. The fullword in memory is not changed. The table below shows the results of “exclusive or-ing” two bits together.

Bit 1	Bit 2	Result
0	0	0
0	1	1
1	0	1
1	1	0

This instruction sets the condition code as follows:

- 0 if all target bits are set to 0. Test this condition with **BZ** or **BNZ**.
- 1 if any target bit is set to 1. Test this condition with **BM** or **BNM**.

**Examples**

**Some Unrelated Exclusive Ors**

```
R4 = X'FFFFFFFF'    ALL 1'S
R5 = X'00000000'    ALL 0'S
R6 = X'0000148C'    0000000000000000000001010010001100
```

```
FIELD1 DC X'0000148C'
FIELD2 DC X'00000000'
FIELD3 DC X'FFFFFFFF'
FIELD4 DC X'12345678'
```

```
X R4, FIELD1    R4 = X'FFFFEB73' Condition Code = 1
X R4, FIELD2    R4 = X'FFFFFFFF' Condition Code = 1
X R4, FIELD3    R4 = X'00000000' Condition Code = 0
X R4, FIELD4    R4 = X'EDCBA987' Condition Code = 1
X R5, FIELD1    R5 = X'0000148C' Condition Code = 1
X R5, FIELD2    R5 = X'00000000' Condition Code = 0
X R5, FIELD3    R5 = X'FFFFFFFF' Condition Code = 1
X R5, FIELD4    R5 = X'12345678' Condition Code = 1
X R6, FIELD1    R6 = X'00000000' Condition Code = 0
X R6, FIELD2    R6 = X'0000148C' Condition Code = 1
```

```
X   R6, FIELD3   R6 = X'FFFFEB73' Condition Code = 1
X   R6, FIELD4   R6 = X'123442F4' Condition Code = 1
```