

Suppose R# is an 8-bit register. The data stored in R# is treated as an unsigned binary number. Explain what “arithmetic” operation the following instruction performs.

INV R2, R1

(Notice that “INV” performs bitwise inversion for input R1 and stores the result to R2.)

Suppose R# is an 8-bit register. The data stored in R# is treated as a two's complement binary number. Explain what "arithmetic" operation the following instruction performs for input R1.

```
AND R2, R1, 0x7F
```

Suppose R# is an 8-bit register. The data stored in R# is treated as an unsigned binary number. Draw a graph for the following instruction. The x-axis should be the value stored in R1 and the y-axis should be the value stored in R2.

EOR R2, R1, 0x01

(Notice that “EOR” performs bitwise exclusive-OR between input R1 and 0x01 and stores the result to R2.)

Suppose R# is an 8-bit register. The data stored in R# is treated as an unsigned binary number. Draw a graph for the following instruction. The x-axis should be the value stored in R1 and the y-axis should be the value stored in R2.

EOR R2, R1, 0x02

(Notice that “EOR” performs bitwise exclusive-OR between input R1 and 0x01 and stores the result to R2.)