2. Design a signed magnitude to 2's complement number converter. The design takes 8-bit input s and interprets s as a signed magnitude number. It generates the value interpreted from the input as 8-bit output t in 2's complement format.

Examples:

s = 8'b0000_0001 (+1 in signed mag)	→ t = 8'b0000_0001 (+1 in 2's complement)
s = 8'b1000_0001 (-1 in signed mag)	→ t = 8'b1111_1111 (-1 in 2's complement)
s = 8'b1101_1110 (-94 in signed mag)	→ t = 8'b1010_0010 (-94 in 2's complement)

Start from the following code header.

```
module signed2twos (s, t);
  input [7:0] s;
  output [7:0] t;
```

Hint: Extract the magnitude, then look at the sign.