Hi! And welcome to the "Best Integer Representation" competition!

Here, we’ll choose who gets to be the world’s standard for computer integers! But first, let’s introduce our contestants:

- **Unsigned**
- **Sign Magnitude**
- **One’s Complement**
- **Two’s Complement**
- **Bias**

In this competition, we’ll use 8-bit numbers. Now let’s get started!

**Round 1 - Negation**

Round 1 is easy. Just tell me how you negate a number!

- **Unsigned**: 0
- **Sign Magnitude**: 1 (Um...)
- **One’s Complement**: 1
- **Two’s Complement**: 1
- **Bias**: 1

Oh, dear! It looks like Unsigned can’t negate. But this competition has only started, so Unsigned still has a chance of catching up to the others.

**Round 2 - Zeroes**

Now for Round 2! Show me all the ways you represent zero!

- **Unsigned**: 0000 0000
- **Sign Magnitude**: 0000 0000
- **One’s Complement**: 1111 1111
- **Two’s Complement**: 0000 0000
- **Bias**: 0111 1111

Now things are getting interesting! Unsigned and Two’s Complement get two points each for having one zero and being able to represent zero with all zero bits. Bias’s zero isn’t all zero bits, but it gets a point for having only one zero. And though they have two zeroes, Sign Magnitude and One’s Complement get a point for having a zero of all zero bits.