Exercises (solution)

1. 27_{10}

   121_{10}
2. 2255_{16}

   $11EC3_{16}$

The number 233_{10} is equal to the following:

1. 10101001_{2}
2. 11001001_{2}
3. 11111001_{2}
4. 11101001_{2} ←

The number 233_{8} is equal to the following:

1. 150_{10}
2. 164_{10}
3. 155_{10} ←
4. 159_{10}

Exercises (solution)

1. 27_{10} → 16+11→0x1b →16+8+2+1→11011_2

   121_{10} → 64+32+16+8+1→1111001_2 →0111 1001 →0x79

2. 2255_{16} →0010 0010 0101 0101 →0 010 001 001 010 101 →21125_8

   $11EC3_{16}$ →0001 0001 1110 1100 0011 → 00 010 001 111 011 000 011 →217303_8

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The number 233_8 is equal to the following:

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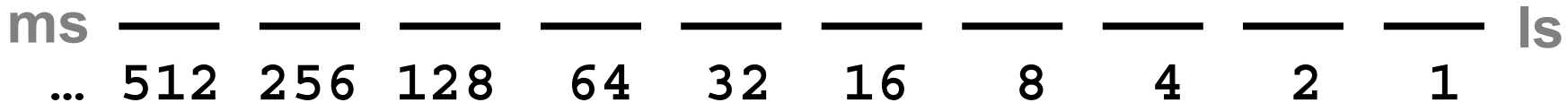
2. 164_{10}
3. 155_{10} ←
4. 159_{10}

Unsigned Integers

- We are already familiar with the representation of positive (unsigned) 1 byte integers.
- larger size integers use the same scheme:
  - Positional Notation: each bit represents a power of 2.



16 Bit (unsigned) Integers

Range of values is:

0_{10} : `0000000000000000`

$65{,}535_{10}$: `1111111111111111`

32 Bit (unsigned) Integers

Range of values is:

0_{10} : `00000000000000000000000000000000`

$4{,}294{,}967{,}295_{10}$: `11111111111111111111111111111111`