Binary!

Why do computers use binary?

 Easy to detect the state of a switch – they're either on or off!

 Using another base makes computers more prone to error.

In decimal (base 10), we have digits 0-9. In binary, we only have digits 0 and 1.

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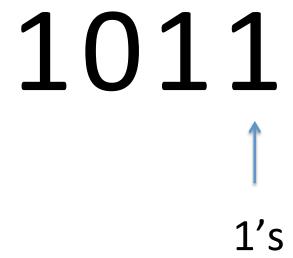
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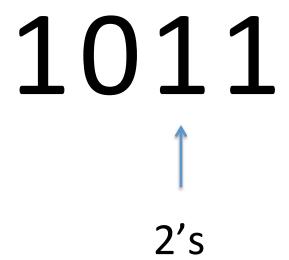
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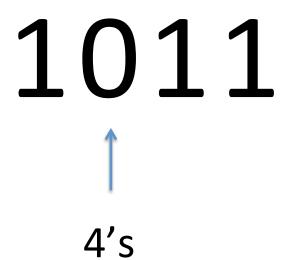
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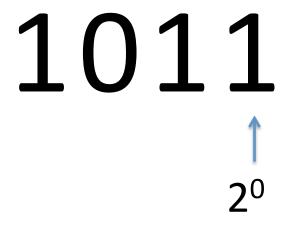
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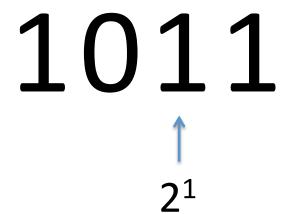
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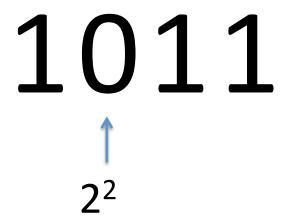


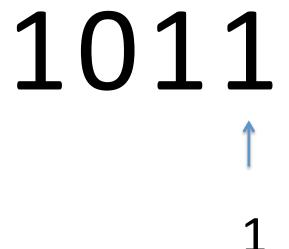












$$8 + 0 + 2 + 1$$

101100

Answer: 44

10001110

Answer: 142

```
100101
```



```
100101
110110
11
```

```
100101
110110
1
011
```

```
100101
110110
1011
```

```
100101
11011
11011
```

```
100101
110110
1
011011
```

Adding is the easiest. EVER.

100101 37

110110 54

Dividing by 2 is neat-o

101100

Dividing by 2 is neat-o

010110

Dividing by 2 is neat-o

001011

Dividing by 2 is neat-o

000101.1

5.5

Dividing by 2 is neat-o

00010.11

2.75

You can count to, like, a bajillion on your fingers in binary.

Try it. I know you want to.

"There are 10 types of people in the world: those who understand binary and those who don't."