Review for exam

Exercises: 04/sum.cpp:29

Given $n \in \mathbb{Z}$, find largest $k \in \mathbb{Z}_{\geq 0}$ s.t. $2^k \mid n$. Easy to test if $k = 0$: just check for $n \% 2 == 0$.

(True $\Rightarrow k > 0$, False $\Rightarrow k = 0$.)

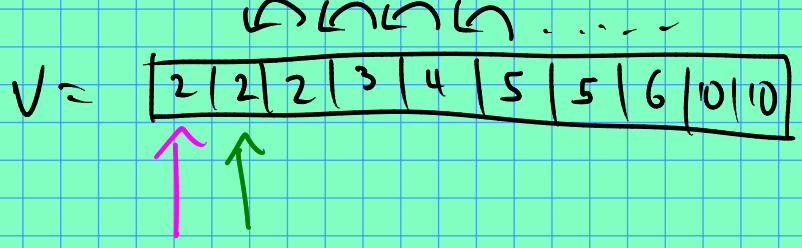
($n = r \cdot 2^k$ for odd r)

Idea: check n for divisibility by 2.

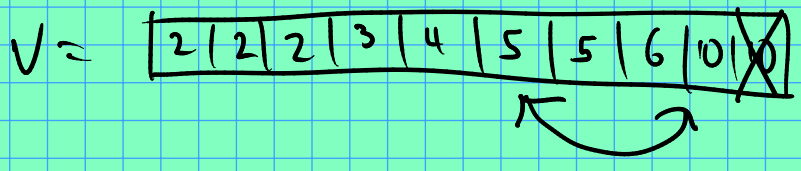
if yes: divide by 2, increment a counter.

if no: output counter.

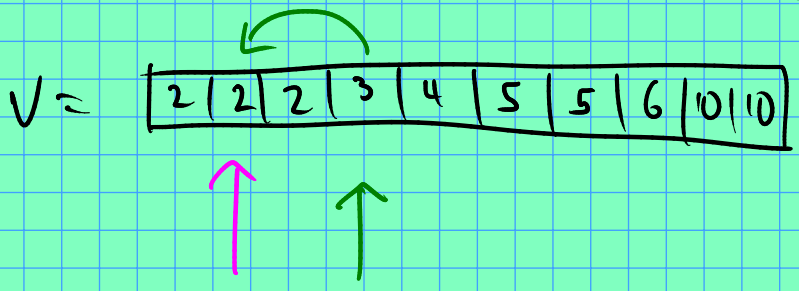
Exercise from 08/vectors.cpp: remove duplicates "in place".



if v.size() = n, this would take $\approx n^2$ steps! x_x



X = 2



↑ = next new thing goes here.

↑ = thing I'm currently looking at.

X = most recent new value

```
if (V[↑] != X)
    V[↑] = V[↑]
    // advance the arrows...
    // update x.
```

Finally, use pop_back() over and over until ↑ is removed.