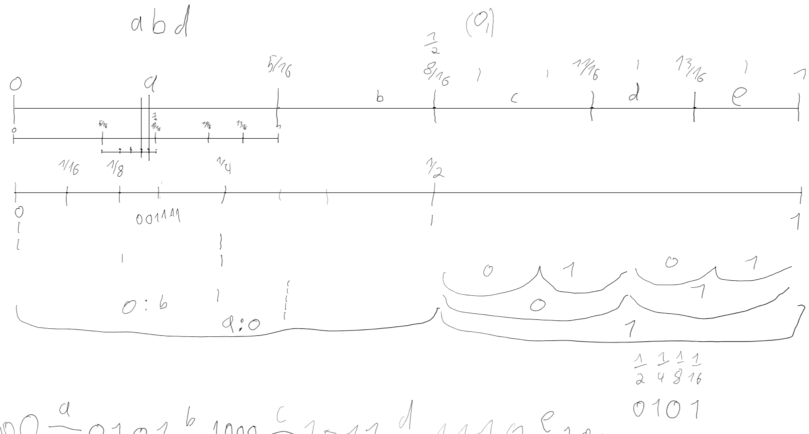


$0,001 \cdot 0,101 = \frac{}{16}$

$0,125 \cdot 0,625 = \frac{1}{8} \cdot \frac{1}{1}$

length = 16 = 2^4

optimization?
→ reduce length if none
last element is 1011

s_pre: $\frac{3}{4} \cdot \frac{1}{8}$

s_post: $\frac{00011}{100000}$
↙
buffer

000 —a— 0101 —b— 1000 —c— 1011 —d— 1110 —e— 10000

s = 0011

u = 0000 + (0101 · 0011) = 001111

001111

Skip after $\log_2(16)$ bits (and concat?)

s−1 = 4
1 2 3 4 5
10001 · 1111 ← a segment
size ↗
1111
+ 11110000
11111111 = '1111'1111'

|segment| = $\log_2 16$ = 4

u64 | denom: 4
0 redundant 1 2
a: 0 − 10 (10)
b: 10 − 11 (01)
c: 11 − 100 (01)

lz: leading-zeros

08.06

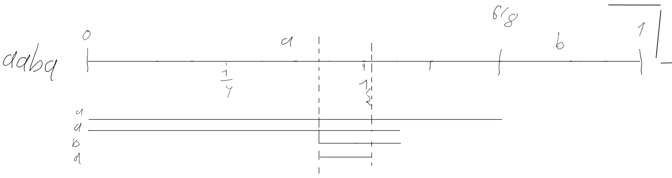
```
init: s = 1/1; u=0; d=100;
for [a..c](a) loop: u = u + s·a.0; // 0
    o = u + s·a.1; // 10 = 1·10 (<<1
    s = s · (a.2/d); // 10/100 = 100/100 · 1/10 (>>1
    fix_mut;

fix_mut: static{out_stream; s_stream;}
    let diff = o−u; // 0..10
    let rem = 64−lz(diff); // 2
    if rem>1 : // wenn es useful ist
      put(2^rem−2 && diff ) // 0010 &&
      o = o >>(rem−1); // 0010>>1 = 0001
      u = u>>(rem−1); // 0000>>1 = 0000
```

00101
00010
00111 lz: 61

put('11') ; 00111>>(63−lz) -> 00001;

(1) 2 4 8 16 32 64 128 256 512
0,110101110

$\log_2(4) = 2$
↓
Push every 2 segments



a: 00 − 11 (0,11)
b: 11 − 1,00 (0,01)

entropy(aaba):
$-\log(\frac{2}{3}) \cdot \frac{2}{3} + -\log(\frac{1}{3}) \cdot \frac{1}{3}$
= 0,1383458354
bit/segment

u
a: 00
aa: 0000
aab: 101101
aaba:

o
a: 11 s = 11
aa: 1001 s = 1001
aab: 1001 s = 101101
aaba:

$\frac{1}{000} \cdot \frac{1}{1010} = \frac{1}{10100000} = 0,000101$

$0 = \frac{1}{80} = 0,0125$

7.6.

$a: \frac{4}{8}$ $b: \frac{2}{8}$ $c: \frac{1}{8}$ aaaabbbc

$= \frac{11}{100} \cdot \frac{1}{1000} = \frac{00011}{100000}$ 2bit / 6bit

u32

$1 + (32 - \text{leadingzeros}) - (32 - \text{leadingzeros})$
denominator numerator

$\cdot \frac{1}{1}$

$\frac{1}{1} \cdot \frac{4}{8} \cdot \frac{2}{8} = \frac{1}{11} \cdot \frac{0011}{1000} \cdot \frac{0010}{1000}$ (a, b)

n = 1 segment ≤ 1

512 $512^{\frac{1}{2}} \cdot \log_2(512)$

u64 0...100000000

0010 = 0010