

## 1 Testing LaTeX Counters

Counter Foo [0] = 0.  
Increment Foo[1] = 1.  
Set Foo to 2 = 2.  
Add 10 to Foo [12] = 12.  
Double Foo [24] = 24.

### 1.1 Testing RefStep

Define bar to be reset within foo. Now (Foo,Bar)[24,0] is (24,0)  
Refstep bar: Now (Foo,Bar)[24,1] is (24,1)  
Refstep foo: Now (Foo,Bar)[25,0] is (25,0)

### 1.2 Number formatting

arabic[6] = 6  
roman [vi] = vi  
Roman [VI] = VI  
alph [f] = f  
Alph [F] = F  
fnsymbol [||] = ||  
How far will T<sub>E</sub>X go? Fubar is mmmmmmmmmcmxcix

## 2 Expanding LaTeX Counter Names

Counter Foo [0] = 0.  
Increment Foo[1] = 1.  
Set Foo to 2 = 2.  
Add 10 to Foo [12] = 12.  
Double Foo [24] = 24.

### 2.1 Testing RefStep

Define bar to be reset within Foo. Now (Foo,Bar)[24,0] is (24,0)  
Refstep Bar: Now (Foo,Bar)[24,1] is (24,1)  
Refstep Foo: Now (Foo,Bar)[25,0] is (25,0)

### 2.2 Number formatting

arabic[6] = 6  
roman [vi] = vi  
Roman [VI] = VI  
alph [f] = f  
Alph [F] = F  
fnsymbol [||] = ||

### 3 TeX Counters

#### 3.1 Integers

7 = 7.  
7 = 7.

#### 3.2 Dimensions

HFuzz is 0.1pt. Now HFuzz is 2.0pt.  
HFuzz is 2.0pt. Now HFuzz is 2.0pt.  
Dimen 1.23pt = 1.23pt.  
Dimen 1.23pt = 1.23pt.  
Dimen 1.23pt = 1.23pt.  
count 2: 3\*65536 = 196608.  
Now dimen: 3pt = 3.0pt  
One em = 10.00002pt  
One ex = 4.30554pt  
Dimen: one ex = 4.30554pt  
Dimen: 1pt = 1.0pt  
Dimen: 1pt = 1.0pt  
8 pt = 8.0pt  
15 pt = 15.0pt  
Catcodes? 15.0 POINTS = 15.0 POINTS

#### 3.3 Glue

1pt plus 3pt = 1.0pt plus 3.0pt  
1pt plus 3fil = 1.0pt plus 3.0fil  
1pt plus 3fill = 1.0pt plus 3.0fill  
Skip: 2pt plus 3fill = 2.0pt plus 3.0fill  
0.1pt plus 3fill = 0.1pt plus 3.0fill  
Catcodes? 1.0 POINTS PLUS 3.0 POINTS = 1.0 POINTS PLUS 3.0  
POINTS

#### 3.4 The

the count 127 [99] : 99  
the two (countdef 2)[196608] : 196608  
Tokens: abFOOcd = abFOOcd  
Catcode: 11 = 11  
Catcode: 12 = 12

#### 3.5 New Count, etc

3 = 3

### 3.6 L<sup>A</sup>T<sub>E</sub>X style

1em = 10.00002pt 3em = 30.00005pt

### 3.7 Macrology

```
1=1
[23=23]
[29=29]
[29=29]
[10000=10000] [$a$ = $a$]
```

### 3.8 Quirks

Note that for toksdef and others, T<sub>E</sub>X binds the token to relax before reading the number, in case the definition is immediagely followed by a usage or assignment (See TeX Program §1224)

```
Tooks:abc
dima:1.0pt
skipa:1.0pt plus 1.0pt
muskipa:1.0mu
@
Σ
```