

Project 02 loose ends

Grading

Rubric

SCAN-TOKEN-LEN (Bug)

Deltas from Lab 09

- w width handling

- u unsigned handling

Review

int32 to hexstr

-v

Project 02 Grading

Due Mon Sep 21 11:59pm

In Github Repo

Makefile \Rightarrow project02
make test

Individual work

Rubric:

60% Passing the tests

40% Interactive grading and code quality

10% Q3 I will give ahead of time

10% Q2

10% Q1

10% Code Quality

Code Quality

- 2 inconsistent spacing or indentation
- 2 inconsistent naming or comments
- 2 commented out code (dead code)
- 2 redundant code
- 2 overly complicated code or messy rcp

ntcalc → ntlang

Clean Repo

.c .h Makefile

X .o
X projector

X scan_2.c

Readme → brief

What?

How to build?

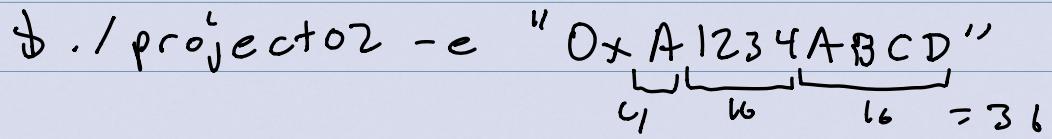
How to use?

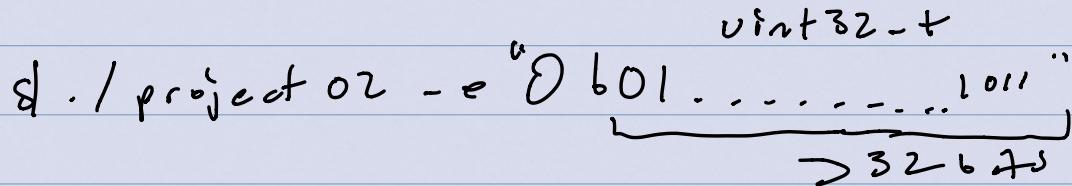
Tuesday Sep 22 → Interactive Grading

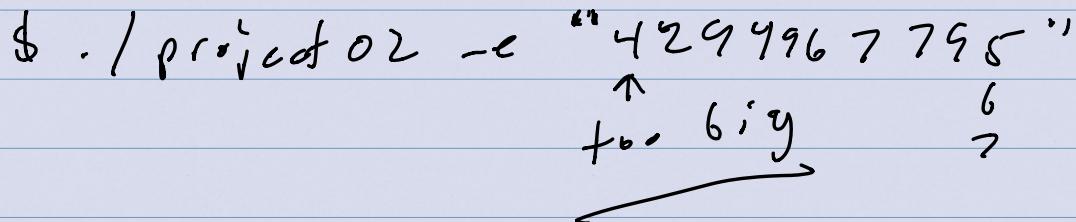
run maketest on P:

- 1) run maketest
- 2) Q1, Q2, Q3
- 3) Code Quality

1 point extra credit
overflow checking on literals

\$./project02 -e "0xA1234ABCD"


\$./project02 -e "0b01.....1011"


\$./project02 -e "4294967795"


Deltas

Lab01 → Project02

Scanner (scann.c)

hexlit

ops: >>, >-, &, |, ^

LSR ASR AND OR XOR

Parser (parse.c)

parse-operand()

hexlit ← conv_hexstr_to_uint32()

intlit ← conv_decstr_to_uint32()

parse-expression()

add support for

>>, >-, &, .!, ^

eval.c

additional operators

(>-)

>>

-w -v -6] → how to present
width unsigned base the result

result = eval-tree(parse-tree);

ntlang-print-result(&config, result)

Config

Binary -b 2 : ~~>~~
result width -w default 32
0 0 0 1 0 0 1 0 0 1 1 1 1 1 1 0 1 1 0 1 1 0 0
-w 8 -b 2 "0b11011100"

Hexadecimal

$$\text{---} \overset{+}{\cancel{6}} \overset{+}{\cancel{1}} \overset{+}{\cancel{6}}$$

result

CE501
2021
0001

1

1

2

3

1

三

D

c

1

$-w$ u_1 , ∞ , $\frac{1}{b}$, (32)

$$0x \underbrace{1234FEDC}_{8 \text{ digits}} \quad 32/4 = 8 \quad -w\ 32$$

$$W/q = C \quad -w/6$$

O X F E D C

$$8/4 = 2$$

— w 8

$$u/u = 1 - w u$$

conv - uint32_t -> - hexSfr(result, width,
result_sfr)

Ginster

$\text{bit} = (\nu \gg 31) \& 0b1$

$$Ch = 0 + 6 \div 0 \cdot 1 \cdot 1$$

6.7 = (v >> 30) & 0b1

$$ch = '0' + \dots +$$

hex str

nibble = (v >> 28) & 0b1111
0xF

if (nibblec \geq 0 & & nibblec ≤ 9) {
ch = '0' + nibblec

3 else if (nibblec ≥ 10 & & nibblec ≤ 15)
ch = 'A' + (nibblec - 10)

}

Decimal
Integer $\circlearrowleft -6\ 10$

$\circlearrowleft -w$ $\boxed{-U}$ unsigned

result $0x\cancel{001}\boxed{0012}$ \downarrow

-w

16

Prepare result = result $\&$ $0x\overbrace{FFFF}^{\begin{array}{l} -w \\ -w \end{array}}\ 0$
 $\circlearrowleft 16$ $0xFFFF$
 $\circlearrowleft -w$ $\&$ $0xFF$
 $\circlearrowleft -w$ $\&$ $0xF$
 \nearrow
virt32
value
virt32toSI
Convert to Int&fr
using alg
div / rem

-w

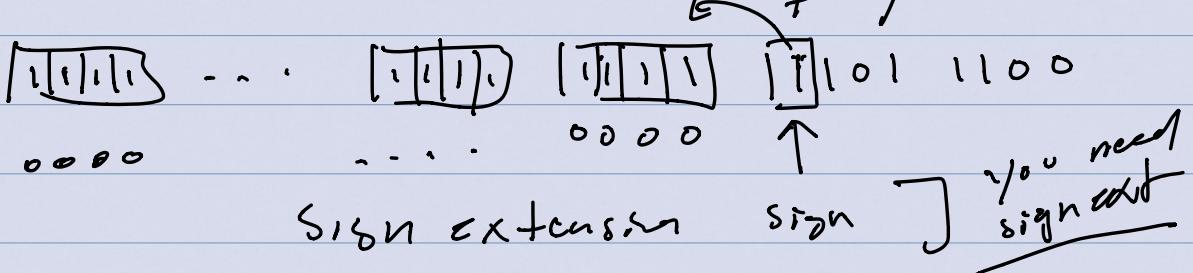
$\circlearrowleft -6\ 10$

$\cancel{\nearrow}$ signed

result

0 001 0010 0011 0100 1111 1110 [1101 1100]

-w 8



sign extend result vint32

~~int iresult = (int) result;~~

[if (iresult < 0) {
 neg = true;
 result = (vint32_t)(iresult - 1);
}

vint32_t str

if (neg)
 result-str = "-" + str