cgdb
Lab03
eval
Lab04
Bases and bit manipulation

Lab04

TK_BINLIT

value "1010"

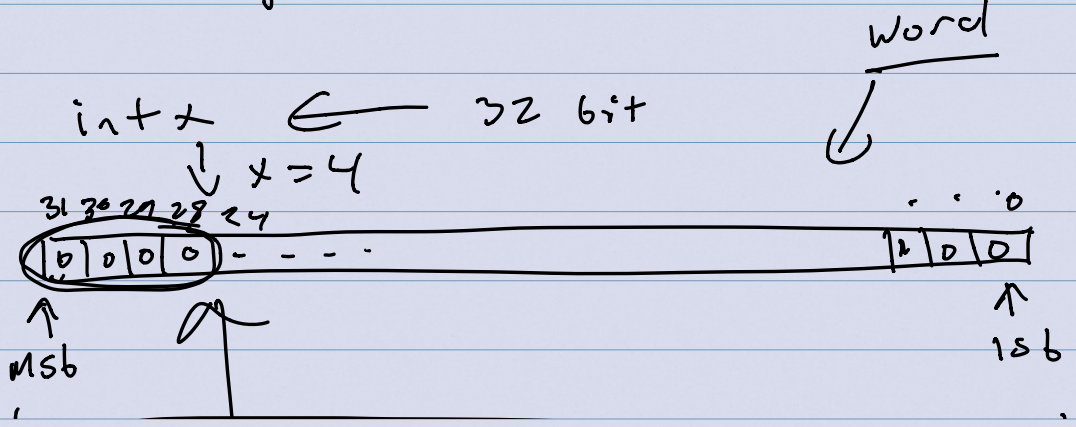
int => uint32_t

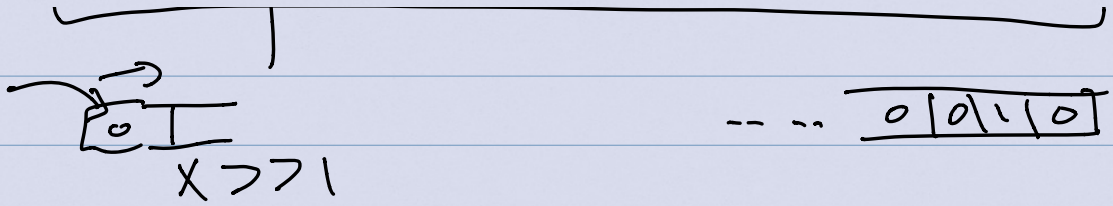
unsigned int

32 bits
4 bytes

---

Bitwise operations






int top4 = x >> 28

| | |
|---|---|
| ~ | NOT |
| & | AND |
| \| | OR |
| ^ | XOR |

| | |
|---|---|
| << | LSL logical shift left |
| >> | LSR logical shift right |
| >- | ASR arithmetic shift right |

| a | ~a |
|---|---|
| 0 | 1 |
| 1 | 0 |

| ab | a&b |
|---|---|
| 00 | 0 |
| 10 | 0 |
| 01 | 0 |
| 11 | 1 |

| ab | a\|b |
|---|---|
| 00 | 0 |
| 10 | 1 |
| 01 | 1 |
| 11 | 1 |

| ab | a^b |
|---|---|
| 00 | 0 |
| 10 | 1 |
| 01 | 1 |
| 11 | 0 |

a = 0b11101

b = 0b11100

---

1110 0

a & b = 0b11100

base 16

| | | REM | |
|---|---|---|---|
| 200 / 16 | = 12 | 8 | → 8 |
| 12 / 16 | = 0 | 12 | → C |

**0xC8**

0xABCD → 13

8 4 2 1

1010 1011 1100 1101

0b 1010 1011 1100 1101

061101

0xF7D

$(15 \times 16^2) + (7 \times 16^1) + (13 \times 16^0)$