

Sign vs unsigned JUMP

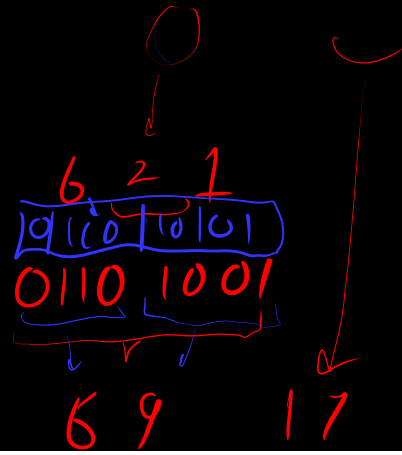
using  
↓  
if x == 0

!x { 0 if x is not 0  
1 if x is 0

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$$r_0 \leq 2 = r_0 - 2 \leq 0$$

if  $r_0 < 3$  Jump to  $0x38$

$r_1 = 0x38$       $60100$   
 $r_0 += -2$       $60001^4$   
if  $r_0 \leq 0$ , Jump to  $r_1$

64 38  
61 FE  
71

□ □

→

| Var | addr |
|-----|------|
| X   | 0x80 |
| Y   | 81   |
| foo | 82   |
| bar | 83   |
| w   | 84   |
| m7  | 85   |

01100111  
 0 1 3

X += Y

→

r0 = M[x80]     63 80

r1 = M[x81]     67 81

r0 += r1     11

M[x81] = r1  
 M[x80] = r0

r3 = 0x81

M[r3] = r1

r3 = 0x80

M[r3] = r0

# Memory

- Code
- Variables
- data structures

array

store [3, 1, 4, 1, 5, 9, 2] at 0xA0

|         |    |    |    |    |    |    |    |
|---------|----|----|----|----|----|----|----|
| address | A0 | A1 | A2 | A3 | A4 | A5 | A6 |
| value   | 3  | 1  | 4  | 1  | 5  | 9  | 2  |

↑

arr[3]  
↑