Computational Thoughts

Dennis Shasha

09/29/2010

Scribed by: Di Dai

Next Monday schedule: Bringing in Laptop, study Python programming

Discussion on Circuit:

“Or” Circuit (slight change comparing to Circuit ‘Nor’)

|  |  |  |
| --- | --- | --- |
| IN 1 | IN 2 | OUT |
| 0 | 0 | 0 |
| 1 | 0 | 1 |
| 0 | 1 | 1 |
| 1 | 1 | 1 |

FIGURE 1:

“XOR” Circuit

|  |  |  |
| --- | --- | --- |
| IN 1 | IN 2 | OUT |
| 0 | 0 | 0 |
| 1 | 0 | 1 |
| 0 | 1 | 1 |
| 1 | 1 | 0 |

FIGURE 2

Boolean Algebra: zThe output of the NAND and the output of the OR should not touch one another.

(IN1+IN2)\*(NOT“IN1\*IN2”)=(IN1+IN2)\*(NOT“IN1”+NOT“IN2’)

=(IN1\*NOT“IN2”+IN2\*NOT“IN1”)

PS: NOT“IN1+IN2”=NOT“IN1”\*NOT“IN2”

IN1\*NOT“IN2”+IN2\*NOT“IN1” Below: output of two ANDs should not be connected.

FIGURE 3:

FIGURE 4: (DAVID’s GRAPH FOR XOR) Looks right. Please check with him. dmi216@nyu.edu

