Operating Systems and Architecture UFCFCU-30-1

Day 2 Tasks

**Digital logic**

Complete a truth table for a full adder

Why do microchips solely use NAND and NOR gates?

How do you make the other gates from NAND and NOR?

Draw a 4-bit adder/subtractor

Fully describe how addition and subtraction can be accomplished with the 4-bit adder/subtractor

How fast is sRAM?

How do SRAM speeds compare with typical clock frequencies?

Find examples of where bitwise AND and OR are useful

Does the address bus need to be the same width as the data bus?

Does the S in SDRAM stand for static?

Using slide 23 (ALU) and the following A value of 10000111001010101100000111101011 and a B value of 11000111001010000011000110101011 complete the following table:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| A7 | B7 | Output of AND | Output of OR | Output of ADD/SUB | Output of Control 0 | Output of Control 1 |
|  |  |  |  |  |  |  |