



IS1102 - COMPUTER SYSTEMS
Tutorial - 02
2022/07/06
Computer Arithmetic

Binary Addition

1. $11111_2 + 11011_2$
2. $10001_2 + 110000_2$
3. $110110_2 + 1101110_2$
4. $111000_2 + 110000_2$
5. $1110110_2 + 11111_2$

Binary Subtraction

1. $1111011_2 - 1100011_2$
2. $1100000_2 - 1100_2$
3. $111111_2 - 1111_2$
4. $1000000_2 - 11000_2$
5. $1101101_2 - 1100_2$

Binary Multiplication

1. $1011_2 * 111_2$
2. $100001_2 * 110_2$
3. $101010_2 * 110_2$
4. $111100_2 * 110_2$
5. $1010101_2 * 1010_2$

Represent in 1's Complement (8 bit)

1. -10
2. -23
3. -120
4. -32
5. -63

Represent in 2's Complement (8 bit)

1. -10
2. -23
3. -120
4. -32
5. -63

Fractions in Binary to decimal

1. 11.011_2
2. 1101.11_2
3. 11011.101_2
4. 11.11_2
5. 101.001_2

IEEE standard 32 bit floating point representation

1. -256.2384
2. 234.1854
3. 324.23
4. -45.342
5. -432.245