

Number Conversion

CSC109; Chapter 5

Decimal (Base 10) to Others	<p>To Base 2 Binary</p> <p>To Base 8 Oct</p> <p>To Base 16 Hex</p>
Steps	<p> <div>Divide number by 2 Record Remainder Down to Top</div> <div>Decimal Fractional</div> <div>Mul by x2 Not no before decimal Take no after decimal -> x2</div> </p> <p> <div>Divide number by 8 Record Remainder Down to Top</div> <div>Decimal Fractional</div> <div>Mul by x8 Note no before decimal Take no after decimal -> x2</div> </p> <p> <div>Divide number by 16 Record Remainder Down to Top</div> <div>Decimal Fractional</div> <div>Mul by x16 Note no before decimal Take no after decimal -> x2</div> </p>
Binary (Base 2) to Others	<p>To Base 10 Decimal</p> <p>To Base 8 Oct</p> <p>To Base 16 Hex</p>
Steps	<p> <div>Mul each bit by 2^n sum</div> </p> <p> <div>Divide into 3 bit group Find corresponding value ←.→</div> </p> <p> <div>Divide into 4 bit group Find corresponding value ←.→</div> </p>
Oct (Base 8) to Others	<p>To Base 10 Decimal</p> <p>To Base 2 Binary</p> <p>To Base 16 Hex</p>
Steps	<p> <div>Mul each bit by 8^n sum</div> </p> <p> <div>Each digit to 3 bit binary</div> </p> <p> <div>No Direct Conversion</div> </p>

