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Program Code & Semester: B.Tech (IT)- 2<sup>nd</sup> Semester.

Paper Title: Computer Organization and Architecture  
Tutorial and Practical - Set 2

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1. Number System [Tutorial] - Conversions (including fraction part): Binary to Decimal, Octal and Hexadecimal; Decimal to Binary, Octal and Hexadecimal; Octal to Binary, Decimal and Hexadecimal; Hexadecimal to Binary, Decimal and Octal.
2. Floating Point Representation [Tutorial] - Compute the Smallest and Largest magnitude in Single and Double precision. Also identify the Infinity value pattern for normalized and subnormal.
3. ARM Instructions [Tutorial]- Write a C Snippet for Matrix Addition and develop the ARM instruction set.
4. x86 Instructions [Practical]- Write a C code for Matrix Addition and analyse the assembly output [x86 instruction set].
5. MIPS [Practical] - Write a MIPS program to count the number of 1's in the input [Thanks to Dr. Bibhas Goshal, IIITA].