Abstract

Calculator is “an electronic/mechanical device for the performance of mathematical computations and implemented with physical hardware devices”, while a software calculator is a calculator that has been implemented as a software program. Similarly a number system is a set of rules & symbols used to represent a number. So, number system calculator is a software
calculator used to perform mathematical computations on number systems. Today everyone is familiar with decimal number system (using 0-9). However digital devices almost use binary number system (using 0 & 1). Binary and other famous number systems e.g. octal (using 0-7) and hexadecimal (using 0-9 & A-F) number systems are based on the same fundamental concept of decimal number system. The knowledge of number systems, their representation, limits, arithmetic, compliments and inter-conversion of numbers between prescribed number systems is essential for understanding of computers and successful programming for digital devices. Understanding all these number systems and related terms/concepts requires allot of time and a large number of techniques to expertise. To overcome this problem, we propose calculating software which will cover and perform all the prescribed calculations within a fraction of second. It will perform various operations like number validity, arithmetic’s, conversion from one to another system and the compliments of number in any required system. Four most common number systems taken under the consideration are binary, octal, decimal, and hexadecimal.

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Index Terms

Computer Science  Digital Electronics

Key words
Calculating software  arithmetic  binary
octal
hexadecimal
inter conversion
compliments