A number system is a set of rules and symbols used to represent a number, or any system used for naming or representing numbers is called a number system also known as numeral system. Almost everyone is familiar with decimal number system using ten digits. However digital devices especially computers use binary number system instead of decimal, using two
digits i.e. 0 and 1 based on the fundamental concept of the decimal number system. Various other number systems also used this fundamental concept of decimal number system i.e. quaternary, senary, octal, duodecimal, quadrodecimal, hexadecimal and vigesimal number system using four, six, eight, twelve, fourteen, sixteen, and twenty digits respectively. The awareness and concept of various number systems, their number representation, arithmetic operations, compliments and the inter conversion of numbers belong different number system is essential for understanding of digital aspects. More over, the successful programming for digital devices require the understanding of various number systems and their inter conversion. Understanding all these number systems and particularly the inter conversion of numbers requires allot of time and techniques to expertise. In this paper the concepts of the most common number systems, their representation, arithmetic, compliments and interconversion is taken under the consideration in tabulated form. It will provide an easy understanding and practising of these number systems to understand as well as memorise them. Few of these number systems are binary, quaternary, senary, octal, decimal, duodecimal, quadrodecimal, hexadecimal and vigesimal.

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**Index Terms**

Computer Science    Digital Electronics

**Key words**

Number system       number’s arithmetic       hexadecimal
inter
conversion
compliments