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Decimal To

Before converting the number from decimal to hexadecimal, we need to understand the meaning of the decimal and hexadecimal number system. The base of a decimal number system is 10 and is also called a radix. Hence, it has ten symbols, more precisely the numbers from 0 to 9, i.e. 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9. The base or radix of a hexadecimal number system is 16. Being a base-16 numeral system, it uses 16 symbols. These include ten decimal digits, i.e., 0, 1, 2, 3, 4, 5, 6, 7, 8, 9 and the first six letters of the English alphabet, i.e. A, B, C, D, E, F. However, these letters are used to represent the values 10, 11, 12, 13, 14 and 15 respectively in one single figure. In **decimal to hex conversion**, we learn to convert a decimal number into its equivalent hexadecimal number system (<https://byjus.com/math/hexadecimal-number-system/>) or the conversion of **base 10 number to base 16 number**.

In this article, you will learn the meaning of **decimal to hex** conversion, a table that denotes the conversions from decimal to hex, a stepwise procedure to convert the given decimal number to hexadecimal number, along with examples.

Table of Contents:

- Conversion
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- Converter
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Let's have a look at the conversion of **decimal to hex** and examples to understand in a better way.

Convert Decimal to Hexadecimal

The conversion of decimal numbers to hexadecimal numbers is a very easy task. It can be done with the help of a conversion table. If one memorizes this table, he/she can easily convert a decimal number to a hexadecimal number. For the decimal numbers from 1 to 15, there is an equivalent hexadecimal number. But how to convert the decimal number if it is more than 15. Then we need to follow a different procedure.

If any given number is more than 15, then we have to divide the decimal number by 16 and consider the remainder to get the equivalent hexadecimal number. The complete procedure we have explained here step by step. But before learning the steps let us see the table, where for each value of the decimal number from 0 to 15, there is an equivalent hexadecimal number given.

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Decimal to Hexadecimal Table

To convert the decimal number system (<https://byjus.com/maths/decimal-number-system/>) to hex, students have to remember the table given below, to solve the problems in a quick way.

Decimal Number	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Equivalent Hexadecimal												B	C	D	E	F

Decimal to Hex

Go through the steps given below to convert decimal to hex.

Step 1: First, divide the decimal number by 16.

Step 2: Keep aside the remainder.

Step 3: Again divide the quotient by 16.

Step 4: Now take the value of the remainder.

Note: Remember, from 0 to 9, the remainders are expressed in decimal numbers.

they are expressed in alphabetical order such as A, B, C, D, E, F and so on.

Let us take an example to understand the steps given above for decimal to hex conversion.

Example: Convert $(960)_{10}$ into hexadecimal.

Solution:

To convert decimal to hex, i.e. 960 base 10 to a hexadecimal number, follow the steps given below:

Step 1: First, divide 960 by 16.

$960 \div 16 = 60$ and remainder = 0

Step 2: Again, divide quotient 60 by 16.

$60 \div 16 = 3$ and remainder 12.

Step 3: Again dividing 3 by 16, will leave quotient=0 and remainder = 3.

Step 4: Now taking the remainder in reverse order and substituting the equivalent hexadecimal value for them, we get,

$3 \rightarrow 3$, $12 \rightarrow C$ and $0 \rightarrow 0$

Therefore, $(960)_{10} = (3C0)_{16}$


This example must have made you understand the conversion method of decimal to hex. Let us solve a few more examples to get good practice over it.

Also, read:

- Number System Conversion (<https://byjus.com/maths/number-system-conversion/>)
- Convert Decimal To Octal (<https://byjus.com/maths/convert-decimal-to-octal/>)
- Decimal To Binary (<https://byjus.com/maths/decimal-to-binary/>)

Decimal to Hex Converter

Apart from these conversion tables and steps, we can use the decimal to hex converter to make the conversion quick and easy. This converter will help you convert the given decimal number system of numbers to hexadecimal numbers.

Click  here for the decimal to hexadecimal calculator (<https://byjus.com/decimal-to-hex-converter-calculator/>).

Also, the below solved examples help in understanding the conversion in a better way.
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Decimal to Hexadecimal Example Problems

Problem 1: Convert decimal number 49 into hexadecimal.

Solution: Let us create a table to solve the problem.

Divide by 16	Quotient	Remainder	Hex Value
$49 \div 16$			1
$3 \div 16$			3

Therefore, $49_{10} = 31_{16}$.

Problem 2: Convert 1228 into hexadecimal.

Solution:

Divide by 16	Quotient	Remainder	Hex Value
$1228 \div 16$			C
$76 \div 16$	4	12	C
$4 \div 16$	0	4	4

Therefore, $1228_{10} = 4CC_{16}$.

Problem 3: Convert 600 into a hexadecimal number.

Solution:

Divide by 16	Quotient	Remainder	Hex Value
$600 \div 16$	37	8	8
$37 \div 16$	2	5	5
$2 \div 16$	0	2	2

Therefore, $600_{10} = 258_{16}$.

Practice Problems

- Convert the decimal number 1542 to the hexadecimal number.
- What is the hexadecimal equivalent of the decimal number $(175)_{10}$?
- Convert the following decimal numbers to hex.
 - 205
 - 450
 - 199
 - 3000

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Frequently Asked Questions – FAQs

How do you convert from decimal to hexadecimal?

If the given decimal number is less than or equal to 15, then we can directly write the corresponding symbols of the hexadecimal number system. For example, the hexadecimal equivalent of 12 is C.

If the given decimal number is more than 15, then first, divide the decimal number by 16, considering the number as

In the conversion of decimal to hex, what is the change in their bases?

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The decimal number 0 is also equal to 0 in hex.

! Quiz on Decimal to Hex



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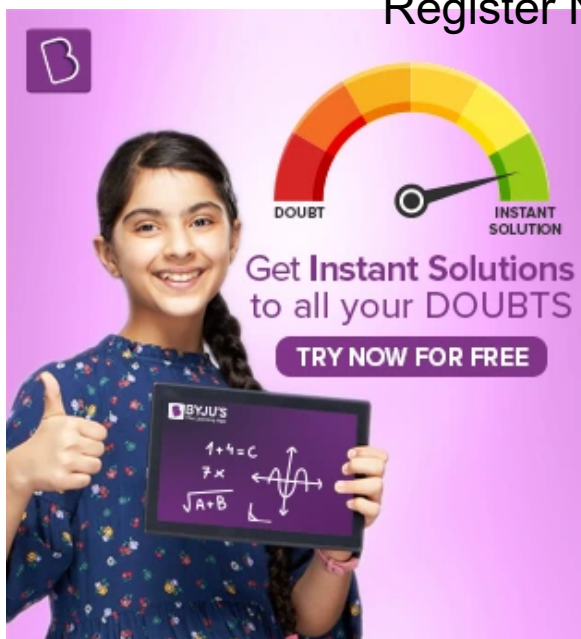
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