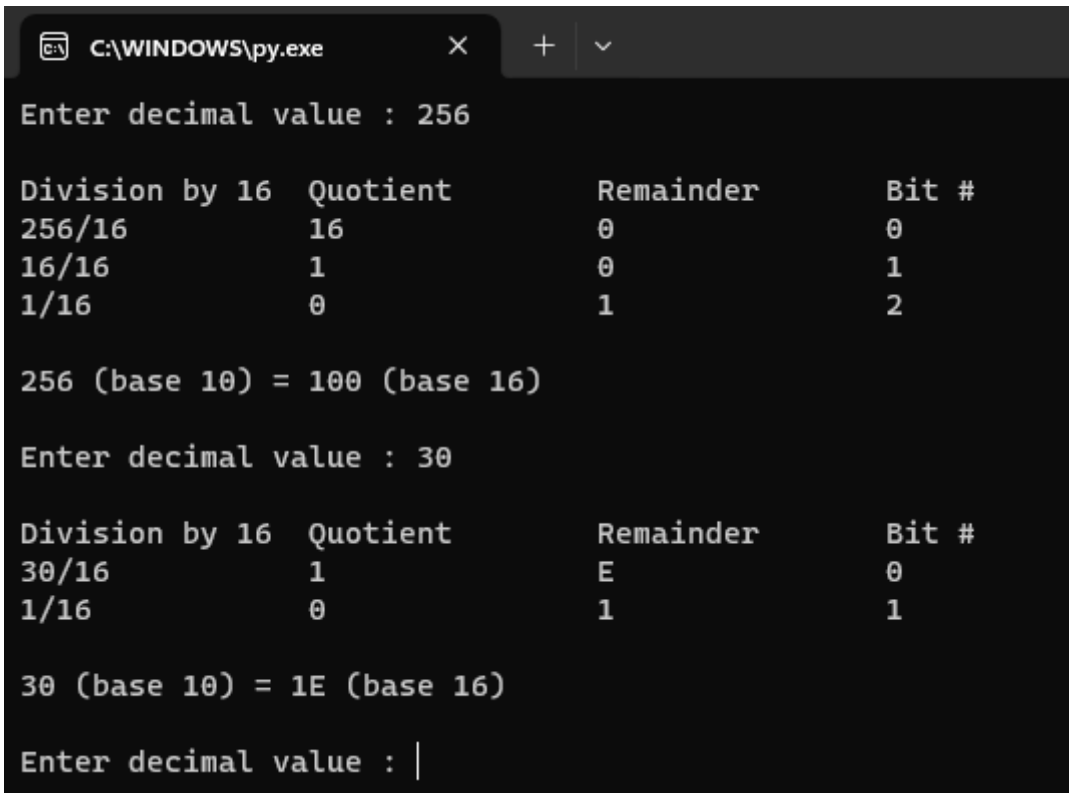


# Decimal to Hex Converter

## Example:



The screenshot shows a Windows command prompt window titled 'C:\WINDOWS\py.exe'. It displays the execution of a Python script that converts decimal values to hexadecimal. The first example shows the conversion of 256 to 100 (base 16). The second example shows the conversion of 30 to 1E (base 16). The script uses a long division method, showing the quotient, remainder, and bit number for each step.

```
C:\WINDOWS\py.exe
Enter decimal value : 256

Division by 16  Quotient      Remainder    Bit #
256/16         16           0            0
16/16          1            0            1
1/16           0            1            2

256 (base 10) = 100 (base 16)

Enter decimal value : 30

Division by 16  Quotient      Remainder    Bit #
30/16           1            E            0
1/16            0            1            1

30 (base 10) = 1E (base 16)

Enter decimal value : |
```

## Code:

```
def decToHexLongDivision(decimal: int) -> str:
    numtodivide = decimal
    quotient = 0
    remainder = 0
    bitlength = 0
    strBinary = ""

    print("\nDivision by 16\tQuotient\tRemainder\tBit #')
    while True:
        if numtodivide <= 0:
            break
```

```

quotient = int(numtodivide / 16)
remainder = hex(numtodivide % 16).split('x')[-1].upper()
print(f'{str(numtodivide) + "/16":<8}\t{quotient:<8}\t{remainder:<8}\t{bitlenght:<8}')
numtodivide = quotient
bitlenght += 1
strBinary += str(remainder)

print(f'\n{decimal} (base 10) = {strBinary[::-1]} (base 16)\n')

def main() -> None:
    """ This program reads in a binary expression as a string and evaluates the result. """
    while True:
        userInput = input("Enter decimal value : ")

        # Without any input, break the loop
        if len(userInput) == 0:
            print("End of program.")
            break

        decToHexLongDivision(int(userInput))

if __name__ == "__main__":
    main()

```

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