

**Convert Decimal Number to Hexadecimal String**

```
/*Convert decimal number to hexadecimal string
 * Two utilities for converting decimal numbers to strings containing
 * hexadecimal numbers
 */

#include <stdio.h>
#include <pascal.h>

char *NumToHex(unsigned short n);
char *NumToHex2(unsigned long n, short digits);

/*
 * NumToHex - fixed length, returns a C string
 */
char *NumToHex(unsigned short n)
{
    /*
     * Declare format static so we can return a pointer to it.
     */
    static char format[] = "0XXXXX";
    char *conv = "0123456789ABCDEF";
    short i;

    for (i = 0; i < 4; n >>= 4, ++i)
        format[5 - i] = conv[n & 0xf];
    return format;
}

/*
 * NumToHex2 -- allows variable length, returns a Pascal string.
 */
char *NumToHex2(unsigned long n, short digits)
{
    /*
     * Declare format static so we can return a pointer to it.
     */
    static char format[] = "\p0XXXXXXXXXX";
    char *conv = "0123456789ABCDEF";
    unsigned long i;

    if (digits > 8 || digits < 0)
        digits = 8;
    format[0] = digits + 2;    /* adjust length byte of output string */

    for (i = 0; i < digits; n >>= 4, ++i)
        format[(digits + 2) - i] = conv[n & 0xf];
    return format;
}

main ()
{
    printf ("%s\n", NumToHex(16));
    printf ("%s\n", PtoCstr(NumToHex2 (30, 2)));
}
```

