Example #8 -- Bitwise Operations on Characters

<1 north:~/Examples >cat example08.c
/*
  Example #8 -- Demonstrate bitwise operations on characters
*/
#include <stdio.h>

int main()
{
  int input;
  char ch;
  for (;;)
  {
    input = getchar();
    if (input ==EOF) break;
    ch = input & 0x0000007f;
    if ('A' <= ch && ch <= 'Z')
    {
      ch = ch | 0x20;
    }
    else if ('a' <= ch && ch <= 'z')
    {
      ch = ch & 0x5f;
    }
    putchar( ch );
  }
  return 0;
}

<2 north:~/Examples >cat example08.data

Most modern computer systems use the American Standard Code for Information Interchange (ASCII) for encoding character or alphanumeric data. ASCII is a seven-bit code with each character occupying a single eight-bit byte, where the leftmost bit (the most significant bit) is set to zero. Thus, 128 characters may be encoded using ASCII.

<3 north:~/Examples >gcc -Wall example08.c

<4 north:~/Examples >a.out < example08.data

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