# Assembly 9

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# Exe 06

#include <cstdio>

#include <cstring>

int dividePor32\_1(unsigned int x) {

  return x >> 5;

}

int restoDaDividePor32(unsigned int x) {

  return x & 0b11111;

}

int dividePor32(unsigned int x) {

  int res;

  asm("   mov   eax, %[x]   \n"

      "   shr   eax, 5      \n"

      "   mov   %[res], eax \n"

      : [res] "=r"(res)

      : [x] "r"(x)

      : "rax");

  return res;

}

int dividePor32Sinal(int x) {

  int res;

  asm("   mov   eax, %[x]   \n"

      "   sar   eax, 5      \n"

      "   mov   %[res], eax \n"

      : [res] "=r"(res)

      : [x] "r"(x)

      : "rax");

  return res;

}

int main() {

  int x = -3213;

  printf("%d %04x %d %04x\n", x, x, dividePor32Sinal(x), dividePor32Sinal(x));

  printf("%d %04x %d %04x\n", x, x, restoDaDividePor32(x), restoDaDividePor32(x));

  return 0;

}

/\*

15: 0000 1111 -> ">>2" -> 0000 0011:3

15: 0000 1111

    0000 0011(mascara)

    ---------&

    0000 0011

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