```
#include <stdio.h>
#include <stdint.h>

/* Y = (1 + C - 2A^2) / 2B^2 */

/* Y = (1 + 23 - 2*2^2) / 2*4^2
 * Y = (24 - 8) / 32
 * Y = 16 / 32
 * Y = 1
 */

int main(void) {
    int8_t A;
    int16_t B, C, Y = 0;

    A = 2;
    B = 4;
    C = 39;



    asm (
        /* C -> bx */
        "movw %1,%%bx\n\t"
        /* A -> al */
        "movb %2,%%al\n\t"

        /* C + 1 */
        "addw  $1, %%bx\n\t"
        /* A * A */
        "imulb %%al\n\t"
        /* A * 2 */
        "addb  %%al, %%al\n\t"
        /*  - A */
        "subw %%ax, %%bx\n\t"

        /* B -> ax */
        "movw %3, %%ax\n\t"
        /* B * B */
        "imulw %%ax\n\t"
        /* B * 2 */
        "addw %%ax, %%ax\n\t"

        /* C / B */
        "idivw %%bx\n\t"

        "movw %%ax, %0\n\t"

        /* output registers */
        : "=m" (Y)
```

```
        /* input registers */
        : "m" (C), "m" (A), "m" (B)
        /* used registers */
        : "%bx", "%ax", "%al"
    );

    printf("%d\n", Y);

    return 0;
}
```