higher memory

addresses

lower memory

addresses

Var name value addr

// Local vars

// on the Stack

int x;

int a[3];

int \*ptr;

0x8000

Use the same variable name in the "Same as" expressions. For example, if the expression uses ptr, you cannot use the array name a in the equivalent expression.

Generally, if the expression involves a pointer access, write the equivalent using an array access, and vice versa.

ptr = &a[0]; // Same as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\*ptr = 42; // Same as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\*(a + 1) = 59; // Same as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

ptr[2] = 77; // Same as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

x = 82;

\*ptr++ = x; // Equivalent as two statements \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

x = ++\*ptr; // Equivalent as two statements \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

x = 99;

\*++ptr = x; // Equivalent as two statements \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

x = 5;

x = (\*ptr)++; // Equivalent as two statements \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

x = \*(ptr - 2) + 5; // Same as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_