Summary

The following software shows how to create a lookup
table using Control C.

```
// ********** Ap Note: Creating a Lookup Table Using Control C *****
// This program demonstrates how to create a lookup table in page 4.
// It will end up being write-protected or PROMmed along with your
// page 4 object code.  This works well for creating arrays such as
// lookup tables that have contents that are initialized once and
// do not need to be changed at runtime.

// This approach uses standard initialized C arrays
// (as opposed to Forth-arrays that are located in the RAM heap area).
// An initialized array typically is placed in the .init section by
// the linker; this section is located in common RAM starting at
// address 0x8E00.
// We use a #pragma compiler directive to tell the linker to put
// the initialized array in a memory section called .alternate
// which is located in PAGE4.  If you're curious, you can look at any
//  .LNK file created when you invoke the "Make" (hammer) icon; you'll
// see the .init section declared as part of RAM, and the
// .alternate section declared as part of PAGE4
// in the ENVIRONMENT portion of the .LNK file.

// The code below presents a simple example of a small lookup table.
// The array is initialized when it is declared, and main prints
// the contents of the array.

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//  LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS
//  FOR A PARTICULAR PURPOSE.

#include <\mosaic\allqed.h>      // include all the QED and C utilities

#define NUMBER_OF_ROWS     4
#define NUMBER_OF_COLS     5

#pragma option init=.alternate   // set .init section to  .alternate
```

```c
static int myArray[NUMBER_OF_ROWS][NUMBER_OF_COLS] =
{
    {11, 12, 13, 14, 15},
    {21, 22, 23, 24, 25},
    {31, 32, 33, 34, 35},
    {41, 42, 43, 44, 45}
};

#pragma option init=.init   // set .init section back to .init

void main(void)
{   int i, j;
    printf("\n The contents of myArray are:\n");
    for (i = 0; i < NUMBER_OF_ROWS; i++)
    {   for (j = 0; j < NUMBER_OF_COLS; j++)
            printf("%5d", myArray[i][j]);
        printf("\n");
    }
}
```

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