

This daily will allow you to practice more with the bit wise operators and shifts. Consider the following modification of the main program from daily 4:

```
void set_flag(unsigned int flag_holder[], int flag_position);
void unset_flag(unsigned int flag_holder[], int flag_position);
int check_flag(unsigned int flag_holder[], int flag_position);
void display_32_flags_as_array(unsigned int flag_holder);
void display_flags(unsigned int flag_holder[], int size);

int main(int argc, char* argv[])
{
    unsigned int flag_holder[5] = { 0 }; //Set the first integer to zero and all others
    to zero by default.

    set_flag(flag_holder, 3);
    set_flag(flag_holder, 16);
    set_flag(flag_holder, 31);
    set_flag(flag_holder, 87);

    display_flags(flag_holder, 5);
    printf("\n\n");

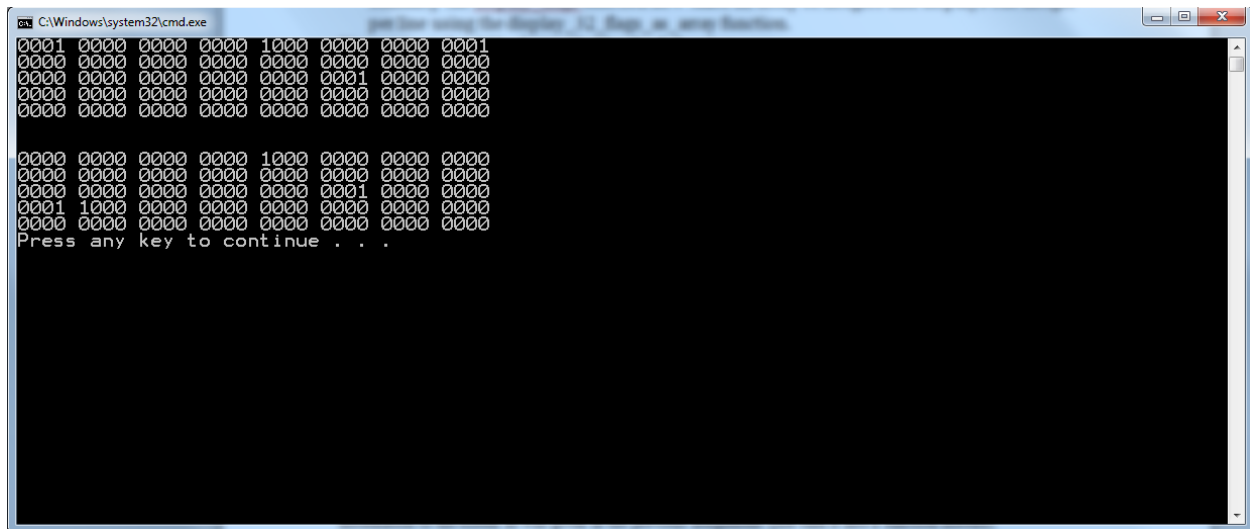
    unset_flag(flag_holder, 31);
    unset_flag(flag_holder, 3);
    set_flag(flag_holder, 99);
    set_flag(flag_holder, 100);

    display_flags(flag_holder, 5);
    return 0;
}
```

Here I have changed the functions so that they take an array of integers instead of just one integer. This allows me to imagine that I have a long array of bits instead of an array of integers. The functions can now set, unset, check and display flags for any bit in the array of 5 integers that I have made (and should work for any size array as long as your bit index is in bounds of your array).

I also changed the display behavior. Daily 4 displayed the flags as you would see them in a binary number but since this program is moving away from the idea of a binary number to store bits and moving toward the idea of having an array of bits the display_32_flags_as_array function will display the [0] bit first then [1] and so on up to 31 whereas the display_32_flags function in daily 4 displays the [31] bit first and down to [0]. Similarly the display_flags function now takes an array of integers and displays one integer per line using the display_32_flags_as_array function.

Your output should look exactly like the following:



A screenshot of a Windows command prompt window titled "C:\Windows\system32\cmd.exe". The window displays a 32x32 grid of characters, each being either '0' or '1'. The grid is arranged in 8 rows and 4 columns of 8 characters each. The first row contains: 0001 0000 0000 0000 1000 0000 0000 0001. The second row contains: 0000 0000 0000 0000 0000 0000 0000 0000. The third row contains: 0000 0000 0000 0000 0000 0001 0000 0000. The fourth row contains: 0000 0000 0000 0000 0000 0000 0000 0000. The fifth row contains: 0000 0000 0000 0000 0000 0000 0000 0000. The sixth row contains: 0000 0000 0000 0000 0000 0000 0000 0000. The seventh row contains: 0000 0000 0000 0000 0000 0000 0000 0000. The eighth row contains: 0000 0000 0000 0000 0000 0000 0000 0000. Below the grid, the text "Press any key to continue . . ." is displayed.

You may want to be careful about how you call your `check_flag` function from inside the `display_32_flags_as_array` function since that function receives an integer and `check_flag` is expecting an array. How can you overcome this obstacle?

At the top of your code you should have a comment section that has the following format:

```
/******  
    Author: <your name>  
    Date: <Today's date>  
    Effort: <Time you spent on this project>  
    Purpose: <Purpose of this assignment in your own words>  
******/
```