COMP500 / ENSE501: Week 11 – Exercise:

EXERCISE NAME: *Bit Flipper*

The following program's source code is incomplete:

```
#define _CRT_SECURE_NO_WARNINGS
#include <stdio.h>

void flip_bit(int* p_number, int bit);

int main(void)
{
    int user_bit = 0;
    int number = 0;
    int looping = 1;

    while (looping)
    {
        printf("%d --- ", number);
        printf("Flip which bit? ");
        scanf("%d", &user_bit);

        flip_bit(&number, user_bit);
    }

    return 0;
}

void flip_bit(int* p_number, int bit)
{
    // TODO: Insert bit flipping code here...
}
```

Add bitwise operations to the **`flip_bit`** function such that when called with the address of an integer, and a bit, that the function will flip the requested bit's state.

An example of the program's output is as follows:

```
0 --- Flip which bit? 1
2 --- Flip which bit? 4
18 --- Flip which bit? 2
22 --- Flip which bit? 4
6 --- Flip which bit? 0
7 --- Flip which bit? 1
5 --- Flip which bit? 3
13 --- Flip which bit? 0
12 --- Flip which bit? 3
4 --- Flip which bit?
```

Ensure the program output is exactly as described, and that the whitespace of your source code is well formatted.