```c
#include <stdio.h>
#include <stdlib.h>

int main()
{
    int i = 2;
    int* pi;
    pi = &i;
    printf("%p: %i", &i, i);
    printf("%p: %i\n", pi, *pi);
    *pi = 4;
    printf("%pi: %i", &i, i);
    printf("%pi: %i\n", pi, *pi);
}
```

```
C:\Users\srivk\OneDrive\Desktop\UNB\Summer2020\CS2263\Lectures\Week2\Day5_May11>prog
0061FF18: 20061FF18: 2
0061FF18i: 40061FF18i: 4
```

An integer i is declared with a value of 2. A pointer pi is also declared which has stored the address of i. The first print statement prints the address and value of i which is 2. The second print statement prints the address of i which is stored in pi and the value of i which is 2. The value of the pointer has now been changed to 4. The value of i is now 4 too. The third print statement prints the address of i and its value of 4. The fourth print statement prints the address of i which is stored in pi and the value of i which is 4.

**testZero.c**

```c
#include "zero.h"
#include <stdio.h>
#include <stdlib.h>

int main(void)
{
    int a = 4;
    printf("The value of the address is: %d \n", a);

    zero(&a);
    printf("The new value of the address is: %d \n", a);
}
```

**swap.c**

```c
// swap.c
/*
 */
#include <stdio.h>
#include <stdlib.h>
void swap(int* i, int* j);

int main(int argc, char* argv[]) {
    int i = 10;
    int j = 99;
    printf("i = %d; j = %d\n", i, j);
    swap(&i,&j);
    printf("i = %d; j = %d\n", i, j);
    return EXIT_SUCCESS;
}
void swap(int* i, int* j) {
    int swap;
    swap = *i;
    *i = *j;
    *j = swap;
}
```

**Modified swap.c**

```c
// swap.c
/*
 */
#include <stdio.h>
#include <stdlib.h>
void swap(int* i, int* j);

int main(int argc, char* argv[]) {
    int i = 10;
    int j = 99;
    printf("i = %d; j = %d\n", i, j);
    printf("Address of i: %p\n", &i);
    printf("Value of i: %i\n", i);
    printf("Address of j: %p\n", &j);
    printf("Value of j: %i\n", j);
    swap(&i,&j);
    printf("i = %d; j = %d\n", i, j);
```

```c
    return EXIT_SUCCESS;
}
void swap(int* i, int* j) {
    int swap;
    swap = *i;
    *i = *j;
    *j = swap;

    printf("Swapping address: %p\n", &swap);
    printf("Address of *i: %p\n", &i);
    printf("Address of *j: %p\n", &j);
}
```

**myUtils.c**

```c
#include "myUtil.h"

int min(int x1, int x2)
{
    if(x1 > x2)
    {
        return x2;
    }
    else
    {
        return x1;
    }
}

int max(int x1, int x2)
{
    if(x1 > x2)
    {
        return x1;
    }
    else
    {
        return x2;
    }
}
```

**myUtil.h**

```
#ifndef MYUTILS_H
#define MYUTILS_H
int min(int x1,int x2);
int max(int x3,int x4);
#endif
```

**testingMyUtils.c**

```c
#include "myUtil.h"
#include "myUtils.c"
#include <stdio.h>
#include <stdlib.h>

int main()
{
    int num1 = 11;
    int num2 = 5;

    printf("The smaller number is: %d\n", min(num1, num2));
    printf("The larger number is: %d\n", max(num1, num2));
}
```

Output:

```
C:\Users\srivk\OneDrive\Desktop\UNB\Summer2020\CS2263\Lectures\Week2\Day5_May11>gcc testingMyUtils.c myUtil.h -o testUtil

C:\Users\srivk\OneDrive\Desktop\UNB\Summer2020\CS2263\Lectures\Week2\Day5_May11>testUtil
The smaller number is: 5
The larger number is: 11
```