Union College
ECE-352
In-Class Exercise
Pointers

Analyze each of the following programs and code segments using the "box method" and write what will be printed to the screen from any printf() statements.

Problem 1:
```
int i;
int *p;
  p  = &i;
   i = 3;
    *p = 7;
```

Problem 2:
```
#include <stdio.h>
int main()
{
int i,j;
int *p;
p = &i;
        *p=5;
        j=i;
        printf("%d %d %d\n", i, j, *p);
        return 0;
}
```

Problem 3:

```c
#include <stdio.h>
int main()
{
int sum number1, number2, number 3;


        sum = 5;
        number1 = 3;
        number2 = 4;
        printf("%d %d %d\n", number1,number2, sum);
        add_numbers(&number1,& number2, sum);
        printf("%d %d %d\n", number1,number2, sum);
        return 0;
}


void add_numbers(int *num1, int *num2, int sum) {
    sum = *num1 + *num2;
}
```

Problem 4:

```c
#include <stdio.h>
int main()
{
int sum number1, number2, number 3;


        sum = 5;
        number1 = 3;
        number2 = 4;
        printf("%d %d %d\n", number1,number2, sum);
        add_numbers(&number1,& number2, &sum);
        printf("%d %d %d\n", number1,number2, sum);
        return 0;
}


void add_numbers(int *num1, int *num2, int *sum) {
    sum = *num1 + *num2;
}
```

Problem 5:

```c
#include <stdio.h>
int main()
{
int num_array[5];
int *array_ptr;
int j;
   array_ptr = num_array;
   for (j = 0; j <5; j++) {
      *array_ptr++ = j;
   }
   array_ptr = num_array;

  for (j = 0; j <5; j++) {
     printf("%d ", *array_ptr++ );
  }
 printf("\n\n");
 for (j = 0; j <5; j++) {
     printf("d ", num_array[j]);
  }
}
```