

Worksheet: Tracing Recursion

1. Consider the following recursive method:

```
public static void recur1(int n) {  
    if (n > 0)  
        recur1(n - 2);  
    System.out.print(n + " ");  
}
```

Trace the output for the following method calls:

- a. `recur1(6);`
- b. `recur1(3);`
- c. `recur1(5);`
- d. `recur1(0)`

2. Consider the following recursive method:

```
public static void recur2(int n) {  
    if (n > 0) {  
        recur2(n - 1);  
        for (int i = 0; i < n; i++)  
            System.out.print("*");  
        System.out.println();  
    }  
}
```

Trace the output for the following method calls:

- a. `recur2(6)`
- b. `recur2(3);`
- c. `recur2(1);`

3. Consider the following recursive method:

```
public static void recur3(int n) {  
    if (n > 0)  
        recur3(n - 10);  
    System.out.print(n + " ");  
}
```

Trace the output for the following method calls:

- a. `recur3(50);`
- b. `recur3(18);`
- c. `recur3(-50);`



4. Consider the following recursive method:

```
public static void recur4 (int n){  
    if (n > 1)  
        recur4(n / 10);  
    System.out.print (n % 10 + " ");  
}
```

Trace the output for the following method calls:

- a. recur4(1457);
- b. recur4(1881);
- c. recur4(-50);

5. Consider the following recursive method:

```
public static void recur5 (int n){  
    if (n > 1)  
        recur5(n -1);  
    System.out.print (n+ " ");  
}
```

Trace the output for the following method calls:

- a. recur5(12);
- b. recur5(8);
- c. recur5(-50);