

CS101 - Group Discussion 2

Instructions: As a group, work together to answer all the questions on the worksheet. Discuss your approaches and make sure everyone understands the solution.

1. Write the output of the following program.

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

2. Write the output of the following program.

```
#include <stdio.h>
int main() {
    int arr[] = {0, 2, 1, 3};
    int n = sizeof(arr)/sizeof(arr[0]);
    for(int i=0; i<(n-1); i++) {
        //if arr[i] is bigger than next element, swap the values
        if(arr[i] > arr[i+1]) {
            arr[i] = arr[i] + arr[i+1];
            arr[i+1] = arr[i] - arr[i+1];
            arr[i] = arr[i] - arr[i+1];
        }
    }
    for(int i=0; i<n; i++) printf("%d ", arr[i]);
    return 0;
}
```

Will this program *sort* every input integer array? If so, why? If not, give a *counter example* of an array that is incorrectly sorted by this program.

3. Write a complete C program that asks the user to enter two positive integers, say, n and m . Then scan m int-arrays, with n elements each. The program should then display a list of all numbers that appear at least once in each of the arrays.
4. Circle syntactical and/or logical error(s) in the following code.

```
#include <stdio.h>
int main() {
    char *s1 = {'h', 'e', 'l', 'l', 'o', 0};
    char s2[] = "world";
    char s3[3] = "!";
    char s4[] = {'t', 'o', '\0'};
    char s5[5] = "cs101";
    printf("%s %s %s %s %s", s1, s2, s3, s4, s5);
}
```