Names and Roles:

**Question 1**

Given the following C code snippet, list the *value* and *type* of each expression below.

```c
int x = 4, i;
int myarray[10];
float f = 4.3;
for(i=0; i < 10; i++) {
    myarray[i] = i % x;
}
```

<table>
<thead>
<tr>
<th>Code snippet</th>
<th>VALUE</th>
<th>TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. x + f</td>
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<tr>
<td>2. myarray[4]</td>
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<tr>
<td>4. myarray</td>
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Question 2

Trace through the following C code, and draw the stack at the execution point indicated in mystery, and show the output produced by a complete run of the program. (Assume stdio.h has been included.)

```c
void print_array(int a[], int s) { // YOUR STACK DRAWING
    int i;
    for (i = 0; i < s; i++) {
        printf("%d:%d, ", i, a[i]);
    }
    printf("\n");
}

int mystery(int a[], int s, int y){
    int i, val;
    val = 0;
    for (i = 0; i < s; i++) {
        if (a[i] < y) {
            val++;
            a[i] = a[i] + y;
        }
    }
    // DRAW THE STACK WHEN EXECUTION GETS HERE
    return val;
}

int main() {
    int i, myarray[10], num;
    for (i = 0; i < 10; i++) {
        myarray[i] = i;
    }
    printf("Before:\n");
    print_array(myarray, 10);
    num = mystery(myarray, 7, 3);
    printf("After: num = %d\n", num);
    printf("\n");
    print_array(myarray, 10); // PROGRAM OUTPUT
}
```