CS 31 Homework 1: C Arrays

Due at the start of class Thursday, September 8, 2022

Names and Roles:

Question 1

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

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

Code snippet	VALUE	TYPE
1. x + f		
2. myarray[4]		
3. myarray[4] > myarray[3]		
4. myarray		

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.)

```
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);
  print_array(myarray, 10);                                // PROGRAM OUTPUT
}
```