1. Write a statement or series of statements which accomplish the below objectives:

   (a) (1 point) Create an array of 5 doubles referenced by the variable `list` and initialize it with the values 4.9, -3.8, 42.0, 9.8, and 6.5.

   (b) (1 point) Create an array of 4 boolean values referenced by the variable `y` and initialize all the values in it to `false`.

2. Using the array you created in Question 1a above, answer the following questions. Answer each part below independently. That is, assume each part starts with the initial array from Question 1a.

   (a) (1 point) What is the value of the variable `q` after the following statement executes?

   ```java
   double q = list.length + list[4];
   ```

   (b) (1 point) Draw the array after the following statements executes.

   ```java
   int x = 3;
   list[x+1] = list[x-1] + list[x];
   ```

   (c) (3 points) Draw the array after the following code executes.

   ```java
   for(int i = 0; i < list.length - 1; i++) {
       list[i] = list[i+1] + 1.0;
   }
   ```
(d) (3 points) What is the value of the variable $x$ after the code below executes?

```java
int x = list[list.length - 1];
for(int i = list.length - 2; i >= 0; i--) {
    if (x > list[i]) {
        x = list[i];
    }
}
```

(e) (1 point) In your own words, what does the code in part d do?

3. Consider the code below. You may assume it’s part of a working program.

```java
int[] c = {16, 3, 15, 4, 8};
int count = 0;

for(int i = 0; i < c.length; i++) {
    if (c[i] % 2 == 0) {
        count++;
    }
}

int[] d = new int[count+1];
count = 0;

for(int i : c) {
    if (i % 2 == 0) {
        d[count] = i;
        count++;
    }
}
```

(a) (1 point) Draw the array $c$ after the code executes:

(b) (3 points) Draw the array $d$ after the code executes: