1) Given the following declarations:
   int a = 3;
   int b = 2;
   double x = 2.0;
   double y = 1.5;
   double[] list = {2.0, 2.1, 2.2};

   For each of the following assignments, if the code is legal Java, draw a diagram showing
   the contents of the array and circle the element modified by the assignment; otherwise
   write “ERROR.”

   a) list[a] = a;

   b) list[x] = x;

   c) list[b] = 4;

   d) list[(a * b)/4] = b;

2) Draw a diagram showing the array contents after execution of the following code fragment:

   int[] list = new int[3];
   for (int i=0; i < list.length; i++)
       list[i] = i + 10;

3) Write code that sets each element of an array called `nums` to the value of the constant `INITIAL`
   (of type double).
1) Given the following declarations:
   ```java
   int a = 2;
   int b = 3;
   double x = 2.0;
   double y = 1.5;
   double[] list = {0.5, 0.5, 0.5};
   ```

   For each of the following assignments, if the code is legal Java, draw a diagram showing
   the contents of the array and circle the element modified by the assignment; otherwise
   write “ERROR.”

   a) `list[a] = a;`

   b) `list[1] = y;`

   c) `list[x] = 4;`

   d) `list[(a * b)/4] = b;`

2) Draw a diagram showing the array contents after execution of the following code fragment:

   ```java
   int[] list = new int[3];
   for (int i=0; i < list.length; i++)
       list[i] = (i + 1) * 100;
   ```

3) Assume an array `list` has been declared and initialized as in the previous question. Write a code
   fragment that uses a loop to add 2 to each array element.