1. Given the following declarations:
   ```
   int a = 3;
   int b = 2;
   double x = 2.0;
   double y = 1.5;
   double[] list = new double[4];
   ```

   a) Draw a diagram depicting the contents of the array with its default values.

   ![Diagram](image1)

   b) For each of the following assignments, if the code is legal Java, redraw the diagram from (a) and circle the element modified by the assignment; otherwise write “ERROR.”

   • list[b] = y; 
     ![Diagram](image2)

   • list[x] = 1; 
     ERROR

   • list[b - a] = 3; 
     ERROR

   • list[1] = -6; 
     ![Diagram](image3)

2. Show the output produced by the following code fragment:

   ```
   double[] list = new double[4];
   for (int i=0; i < list.length; i++)
     list[i] = i * 5;
   
   for (int i=list.length - 1; i >= 0; i--)
     System.out.println(list[i]);
   ```

   Output:
   ```
   15.0
   10.0
   5.0
   0.0
   ```

3. Write a code fragment to create an array named `itsAllTrue` of 100 values of type `boolean` and to set them all to the value `true`.

   ```
   boolean[] itsAllTrue = new boolean[100];
   for (int i=0; i < itsAllTrue.length; i++)
     itsAllTrue[i] = true;
   ```
1. Given the following declarations:
   ```java
   int a = 2;
   int b = 3;
   double x = 2.0;
   double y = 1.5;
   double[] list = new double[3];
   ```
   
   a) Draw a diagram depicting the contents of the array `list` with its default values.

   ```
   0 1 2
   0.0 0.0 0.0
   ```

   b) For each of the following assignments, if the code is legal Java, redraw the diagram from (a) and circle the element modified by the assignment; otherwise write “ERROR.”

   ```
   • list[x] = a;       ERROR
   • list[1] = x;       0 1 2
                        0.0 2.0 0.0
   • list[b - a] = 3;   0 1 2
                        0.0 3.0 0.0
   • list[b] = 4;       ERROR
   ```

2. Show the output produced by the following code fragment:

   ```java
   double[] list = new double[4];
   for (int i=0; i < list.length; i++)
       list[i] = i + 5;
   
   for (int i=list.length - 1; i >= 0; i--)
       System.out.println(list[i]);
   ```

   ```
   Output:
   8.0
   7.0
   6.0
   5.0
   ```

3. Write a code fragment to create an array named `bunchOfM` of 5 char values and to set them all to the character ‘M’.

   ```java
   char[] bunchOfM = new char[5];
   for (int i=0; i < bunchOfM.length; i++)
       bunchOfM[i] = 'M';
   ```