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.

   ![Diagram](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.”
   ```java
   • list[1] = x;  0 1 2
   0.0 2.0 0.0
   ```
   ```java
   • list[b - a] = 3;  0 1 2
   0.0 3.0 0.0
   ```
   ```java
   • list[b] = 4;  ERROR
   ```
   ```java
   • list[x] = a;  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 + 3;
   for (int i=list.length - 1; i >= 0; i--)
       System.out.println(list[i]);
   ```
   ![Output](6 5 4 3)

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’;
   ```
1. Given the following declarations:
   ```java
   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.

   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] = 1; ERROR
   - list[b] = y; 0 1 2 3
     0.0 0.0 1.5 0.0
   - list[b - a] = 3; ERROR
   - list[1] = -6; 0 1 2 3
     0.0 -6.0 1.5 0.0

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 * 3;
   for (int i=list.length-1; i >= 0; i--)
       System.out.println(list[i]);
   ```

   Output:
   ```
   9
   6
   3
   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.

   ```java
   boolean[] itsAllTrue = new boolean[5];
   for (int i=0; i < itsAllTrue.length; i++)
       itsAllTrue[i] = true;
   ```