

Questions – Chapter 17 - Arrays

1. Fill in the blank(s) in each of the following statements:
 - a. Lists and tables of values can be stored in _____.
 - b. An array is a group of _____ (called elements or components) containing values that all have the same _____.
 - c. The _____ allows programmers to iterate through the elements in an array without using a counter.
 - d. The number used to refer to a particular element of an array is called the element's _____.
 - e. An array that uses two indices is referred to as a(n) _____ array.

2. Perform the following tasks for an array called `fractions`:
 - a. Declare a constant `ARRAY_SIZE` that is initialized to 10.
 - b. Declare an array with `ARRAY_SIZE` elements of type `double`, and initialize the elements to 0.
 - c. Refer to array element 4.
 - d. Assign the value `1.667` to array element 9.
 - e. Assign the value `3.333` to the seventh element of the array.
 - f. Sum all the elements of the array, using a `for` statement. Declare the integer variable `x` as a control variable for the loop.

3. Find and correct the error in each of the following program segments:
 - a.

```
final int ARRAY_SIZE = 5;
ARRAY_SIZE = 10;
```
 - b. Assume

```
int b[] = new int [ 10 ];
for ( int i = 0; i <= b.length; i++ )
    b[ i ] = 1;
```
 - c. Assume

```
int a[][] = { { 1, 2 }, { 3, 4 } };
a[ 1, 2 ] = 5;
```

4. Consider a 2-by-3 integer array `t`.
 - b. Write a declaration for `t`.
 - c. How many rows does `t` have?
 - d. How many columns does `t` have?
 - e. How many elements does `t` have?
 - f. Write the names of all the elements in the second row of `t`.
 - g. Write the names of all the elements in the third column of `t`.

- h. Write a single statement that sets the element of **t** in row 1 and column 2 to zero.
- i. Write a series of statements that initializes each element of **t** to zero. Do not use a repetition structure.
- j. Write a nested **for** structure that initializes each element of **t** to zero.
- k. Write a statement that displays the elements of the first row of **t**.