

## Chapter 5 Arrays

1. See the section "Declaring and Creating Arrays."
2. You access an array using its index.
3. No memory is allocated when an array is declared. The memory is allocated when creating the array.
4. Indicate true or false for the following statements:

1. Every element in an array has the same type.

**Answer:** True

2. The array size is fixed after it is declared.

**Answer:** False

3. The array size is fixed after it is created.

**Answer:** True

4. The element in the array must be of primitive data type.

**Answer:** False

5. Which of the following statements are valid array declarations?

```
int i = new int(30);
```

**Answer:** Invalid

```
double d[] = new double[30];
```

**Answer:** Valid

```
char[] r = new char(1..30);
```

**Answer:** Invalid

```
int i[] = (3, 4, 3, 2);
```

**Answer:** Invalid

```
float f[] = {2.3, 4.5, 5.6};
```

**Answer:** Valid

```
char[] c = new char();
```

**Answer:** Invalid

```
int[][] w = new int[2];
```

**Answer:** Invalid

```
int[] x = new int[];
```

**Answer:** Invalid

```
int[][] y = new int[3][];
```

**Answer:** Valid

6. The array index type is int and its lowest index is 0.
7. `a[2]`
8. A runtime exception occurs.
9.
  1. The semicolon (;) at the end of the first line, second line, and the for loop heading should be removed.
  2. `r(i)` should be `r[i]`.
  3. `r.length()` should be `r.length`.
10. `System.arraycopy(source, 0, t, 0, source.length);`
11. `int[][] m = new int[4][5];`
12. The second assignment statement `myList = new int[20]` creates a new array and assigns its reference to `myList`.
13. Yes. They are *ragged array*.
14. `array[0][1]` is 2.