# CRT

1.

  The index value of the third element is 2 (arrays are zero-indexed).

2.

```java
int[] quantities = new int[20];
```

3.

```java
double[] heights = {1.65, 2.15, 4.95};
```

4.

```java
for (int grade : grades) {

   System.out.println(grade);

}
```

6.

  Passing an entire array gives the method access to the full array and allows it to modify its elements directly (arrays are passed by reference).

  Passing a single element provides the method with only a copy of that element's value (for primitive types), meaning changes to the element won't affect the original array.

7. Offset array indexes are used when you need to adjust the starting point of an array's traversal or calculations. For example, when skipping initial elements, handling subarrays, or managing data where specific offsets (like time zones or alignment in algorithms) are relevant.

8.
```java
String name = "Elaine";

System.out.println(name.charAt(3));
```

  The output is i, as the character at index 3 of the string "Elaine" is i (zero-indexed).