CRT

1. The index of the third element in an array is 2 (arrays start indexing from zero).

2. Declaration of an array named `quantities` to hold 20 integers:
java
Copy code
```java
int[] quantities = new int[20];
```

3. Declaration of an array named `heights` that contains the values 1.65, 2.15, and 4.95:
java
```java
double[] heights = {1.65, 2.15, 4.95};
```

   1.

4. For-each loop to print the integer values stored in an array called `grades`:
java
```java
for (int grade : grades) {
    System.out.println(grade);
}
```

5. a) Algorithm for inserting data into an array:

   ○ Start
   ○ Shift elements from the insertion index to the end of the array one position to the right.
   ○ Insert the new data at the specified index.
   ○ End

   b) Algorithm for deleting data from an array:

   ○ Start
   ○ Identify the index of the element to be removed.
   ○ Shift elements from the next index to the end of the array one position to the left.
   ○ Optionally, set the last element to a default value (such as null or 0).
   ○ End

6. Passing an entire array to a method enables the method to access and modify the whole dataset, whereas passing a single element provides access only to that specific value.

Modifications made to an array within the method affect the original array, while changes to a single element do not impact the array itself.