Solution: Halve the Elements of the Array

Here is a solution to the coding challenge given in the previous lesson.

WE'LL COVER THE FOLLOWING

Solution

Here is the code that halves all the elements of the array which are greater than 10.

```
import std.stdio;

void Halve() {

    double[] array = [ 1, 20, 2, 30, 7, 11 ];

    double[] slice = array;    // Start with a slice that
                               // provides access to all of
                               // the elements of the array

    while (slice.length) {     // As long as there is at least
                               // one element in that slice

        if (slice[0] > 10) {   // Always use the first element
            slice[0] /= 2;     // in the expressions
        }

        slice = slice[1 .. $]; // Shorten the slice from the
                               // beginning
    }

    int i = 0;

    while(i<array.length) {

        write(array[i]," ");
        ++i;
    }

}
```

Code to halve the elements of an array

Solution explanation

- **Line 7:**

```
double[] slice = array;
```

  Here, we are creating a slice that provides access to all of the elements of the array.

- **Line 11:**

```
while(slice.length)
```

  This `while` loop will iterate over the elements of the slice as long as there is at least one element in the slice.

- **Line 14 and 15:**

```
if (slice[0] > 10) {
    slice[0] /= 2;
```

  `slice[0]` makes sure that we always use the first element in the expression. Then, we are dividing the element in half if it is greater than 10.

- **Line 18:**

```
slice = slice[1 .. $];
```

  This line is shortening the slice from the beginning so that we can move on to the next element of the array.

- **Line 26:**

```
write(array[i]," ");
```

Changes made in the slice will reflect in the array as well. Therefore, we are displaying the contents of the array.

In the next lesson, we will look at another data type in D, i.e., characters.