**Part 3**

* 1. It only creates max + 1 array element.
  2. We have max + 1 in order to also include the last element that is in the program.
  3. No, we cannot use max on its own.

1. 1. We have the i = 1 before the while-loop in order to initialize what i equals since Java would automatically initialize i as 0. In other words, if we had it initialized as 0, we would be out of bounds.
   2. Yes, we can use a different variable for the i that is before the while-loop.

do {

arr3[i] = arr3[i - 1] + i;

} while (i < max)

* 1. (i++ <= max) will result in an increase of i in the statement as arr3[i – 1], we would get the number for the previous one and adding i for the current.