1. A. It’s long because longs can contain more numbers than integers. The code will crash if the numbers become too big.

B. It’s declared as “[max +1]” because we have to include 0.

1. while(mode == true)

3.a. Integer.MAX\_VALUE is the biggest number, we need to make sure the number we currently have is bigger than all the numbers in the array. If we use a random number it might be smaller than all the numbers in the array.

b.Integer.MIN\_VALUE is the smallest number produced by Java, we need to make sure that this number is smaller than all the numbers in the array if we put a random number it might be bigger than all the numbers in the array.