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**import** java.util.Random;

**public** **class** SearchingMain {

**public** **static** **void** main(String[] args) {

**int** arraySize = 1000;

Integer[] myList = **new** Integer[arraySize];

Random random = **new** Random();

// Populate the array with random integers between 1 and 1000

**for** (**int** i = 0; i < arraySize; i++) {

myList[i] = random.nextInt(1000) + 1;

}

// Calculate the middle index

**int** middleIndex = (myList.length - 1) / 2;

// Display the first, middle, and last elements with their indices

System.***out***.println("The 0th element of the array is: " + myList[0]);

System.***out***.println("The " + middleIndex + "th element of the array is: " + myList[middleIndex]);

System.***out***.println("The " + (myList.length - 1) + "th element of the array is: " + myList[myList.length - 1]);

}

}