**Octonumero**

An octonumero of a number x is found as follows.

1. Convert x to base 8, call this p
2. Sort the digits of p in increasing order, call this q
3. Subtract q from p in octal
4. Repeat steps 2 - 3, four more times or until the digits in the result are in sorted order.
5. Convert the number back to decimal

Example:

x = 341810

convert: 341810 = 65328

sort and subtract: 65328 - 23568 = 41548

4 more times: 41548 - 14458 = 25078

3 more times: 25078 - 2578 = 2230,

2 more times: 22308 - 2238 = 20058

last time: 20058 - 258 = 17608

convert: 17608 = 100810

Some hints:

**Converting from decimal to octal**

Java’s toOctalString will convert from decimal to octal. [Read more about it here](https://www.tutorialspoint.com/java/lang/integer_tooctalstring.htm).

parseInt will convert from a String to an int.

Example:

Integer j = 123;

String strj = j.toOctalString(j);

int jj = Integer.parseInt(strj);

System.out.println("decimal:" + j + " octal:" + strj + " string to int " + jj );

**Sorting an array**

Java Arrays class (which you need to import) has sort method as shown below, or click [here](http://stackoverflow.com/questions/30199304/sorting-characters-alphabetically-in-a-string)

Example:

char [] mychars = strj.toCharArray();

Arrays.sort (mychars);

String sortedString = new String (mychars);