

Array Questions

Question 1

Let there be a number of sticks of varying lengths. Cut the sticks iteratively into smaller sticks, discarding the shortest pieces until there are none left. At each iteration determine the length of the shortest stick remaining, cut that length from each of the longer sticks and then discard all the pieces of that shortest length. When all the remaining sticks are the same length, they cannot be shortened so discard them.

Given the lengths of n sticks, print the number of sticks that are left before each iteration until there are none left.

For example, there are $n=3$ sticks of lengths $arr=[1,2,3]$. The shortest stick length is 1, so we cut that length from the longer two and discard the pieces of length 1. Now our lengths are $arr=[1,2]$. Again, the shortest stick is of length 1, so we cut that amount from the longer stick and discard those pieces. There is only one stick left, $arr=[1]$, so we discard that stick. Our lengths are $answer=[3,2,1]$.

Question 2

Create a classes **Employee** with four instance variables – empid, name, age, designation and salary. Using **setter method** set values for the member values. Define the following member methods:-

- ✓ **printDetails**(Employee) : print the details of the mentioned employee object.
- ✓ **salaryBonus**(): based on the designation give a salary hike with the following criteria
 - Manager: 30%
 - Supervisor: 20%
 - Worker: 10%
- ✓ **searchDetails**(String empid): search the details of the employee using the empid return true or false

Create an **EmployeeTest** class, which creates n array array of Employee object. Using a menu driven program do the following:-

1. Print
2. Calculate bonus
3. Search
4. Exit [*System.exit(0); can be used*]