**Minimize sum of alternate product**

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We are given an array of even size, Your task is to find the minimum sum which is obtained by sorting the array in such a way that the sum of product of alternate elements is minimum.

Examples:

Input : A[] = {9, 2, 8, 4, 5, 7, 6, 0}

Output : Minimum sum of the product of

consecutive pair elements: 74

Sorted arr[] for minimum sum:

{9, 0, 8, 2, 7, 4, 6, 5}

Explanation : We get 74 using below

calculation in rearranged array.

9\*0 + 8\*2 + 7\*4 + 6\*5 = 74

**Input:**  
The first line of input contains an integer T denoting the no of test cases. Then T test cases follow. Each test case contains an integer N denoting the size of the array. Then in the next line are N space separated digits of the array.  
  
**Output:**  
For each test case in new line print the minimum sum.  
  
**Constraints:**  
1<=T<=100  
4<=N<=100  
1<=A[]<=1000  
  
**Example:  
Input:**  
2  
8  
9 2 8 4 5 7 6 0  
4  
1 2 3 4  
**Output:**  
74  
10

\*\*For More Examples Use Expected Output\*\*

<http://practice.geeksforgeeks.org/problems/minimize-sum-of-alternate-product/0>

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package javaapplication248;

import java.io.BufferedReader;

import java.io.IOException;

import java.io.InputStreamReader;

import java.util.ArrayList;

import java.util.Arrays;

import java.util.HashSet;

/\*\*

\*

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\*/

public class JavaApplication248 {

public static void main(String[] args) throws IOException {

// TODO code application logic here

BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

int t = Integer.parseInt(br.readLine());

while(t-- > 0) {

int n = Integer.parseInt(br.readLine());

String[] input = br.readLine().trim().split(" ");

int[] arr = new int[n];

for(int i =0; i<n; i++) {

arr[i] = Integer.parseInt(input[i]);

}

Arrays.sort(arr);

int i =0, j = arr.length-1;

ArrayList<Integer> lista = new ArrayList<Integer>();

while(i<j) {

lista.add(arr[i]);

lista.add(arr[j]);

i++;

j--;

}

/\*

for(int elem: lista) {

System.out.print(elem + " ");

}\*/

int sum =0;

for( i =0;i+1 < lista.size(); i+=2) {

sum += lista.get(i)\* lista.get(i+1);

}

System.out.println(sum);

}

}

}