

```

import java.util.*;
import java.lang.*;
import java.io.*;
public class Main
{
    public static void main (String[] args) throws java.lang.Exception
    {
        MyScanner sc = new MyScanner();
        PrintWriter out = new PrintWriter(new BufferedOutputStream(System.out));
        int tt = sc.nextInt();
        while (tt-- > 0) {
            int n = sc.nextInt();
            int [] a = new int[n];
            TreeSet<Integer> set = new TreeSet<>();
            for (int i = 0; i < n; i++) {
                a[i] = sc.nextInt();
                set.add(a[i]);
            }
            long ans = 0;
            for (int i = 0; i < n; i++) {
                for (int j = i + 2; j < n; j++) {
                    int s = a[i];
                    int e = a[j];
                    int mean = (s + e) / 2;
                    long res = 0;
                    Integer lo = set.lower(mean);
                    if (lo != null) {
                        res = Math.max(res, multiply(e - lo, lo - s));
                    }
                    Integer hi = set.higher(mean);
                    if (hi != null) {
                        res = Math.max(res, multiply(e - hi, hi - s));
                    }
                    if (set.contains(mean)) {
                        res = Math.max(res, multiply(e - mean, mean - s));
                    }
                }
                ans += res;
            }
            out.println(ans);
            out.close();
        }
        static long multiply(int x, int y) {
            return (long) x * (long) y;
        }
        static void sort(long[] a) {
            ArrayList<Long> q = new ArrayList<>();
            for (long i : a) q.add(i);
            Collections.sort(q);
            for (int i = 0; i < a.length; i++) a[i] = q.get(i);
        }
        public static class MyScanner {
            BufferedReader br;
            StringTokenizer st;

```

```
public MyScanner() {
    br = new BufferedReader(new InputStreamReader(System.in));
}
String next() {
    while (st == null || !st.hasMoreElements()) {
        try {
            st = new StringTokenizer(br.readLine());
        } catch (IOException e) {
            e.printStackTrace();
        }
    }
    return st.nextToken();
}
int nextInt() {
    return Integer.parseInt(next());
}
long nextLong() {
    return Long.parseLong(next());
}
double nextDouble() {
    return Double.parseDouble(next());
}
String nextLine(){
    String str = "";
    try {
        str = br.readLine();
    } catch (IOException e) {
        e.printStackTrace();
    }
    return str;
}
}
```