```java
import java.util.*;
import java.lang.*;
import java.io.*;
class Main
{
    public static void main (String[] args) throws java.lang.Exception
    {
        MyScanner input= new MyScanner();
        PrintWriter out= new PrintWriter(new BufferedOutputStream(System.out));
        int test = input.nextInt();
        while (test> 0)
        {
            int n=input.nextInt();
            int [] arr = new int[n];
            TreeSet<Integer> set = new TreeSet<>();
            for (int i = 0; i < n; i++)
            {
                arr[i] = input.nextInt();
                set.add(arr[i]);
            }
            long ans = 0;
            for (int i = 0; i < n; i++)
            {
                for (int j = i + 2; j < n; j++)
                {
                    int s = arr[i];
                    int e = arr[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)
```

```java
{
    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;
```

```
    }}
}
```