**Chocolate Distribution Problem :-**

Easy Accuracy: 49.91% Submissions: 175K+ Points: 2

Given an array **A[ ]** of positive integers of size **N**, where each value represents the number of chocolates in a packet. Each packet can have a variable number of chocolates. There are **M** students, the task is to distribute chocolate packets among **M** students such that :  
1. Each student gets **exactly** one packet.  
2. The difference between maximum number of chocolates given to a student and minimum number of chocolates given to a student is minimum.

**Example 1:**

**Input:**

N = 8, M = 5

A = {3, 4, 1, 9, 56, 7, 9, 12}

**Output:** 6

**Explanation:** The minimum difference between maximum chocolates and minimum chocolates is 9 - 3 = 6 by choosing following M packets :{3, 4, 9, 7, 9}.

**Example 2:**

**Input:**

N = 7, M = 3

A = {7, 3, 2, 4, 9, 12, 56}

**Output:** 2

**Explanation:** The minimum difference between maximum chocolates and minimum chocolates is 4 - 2 = 2 by choosing following M packets :{3, 2, 4}.

**Your Task:**  
You don't need to take any input or print anything. Your task is to complete the function **findMinDiff()**which takes array A[ ], N and M as input parameters and returns the minimum possible difference between maximum number of chocolates given to a student and minimum number of chocolates given to a student.

**Expected Time Complexity:**O(N\*Log(N))  
**Expected Auxiliary Space:**O(1)

**Constraints:**  
1 ≤ T ≤ 100  
1 ≤ N ≤ 105  
1 ≤ Ai ≤ 109  
1 ≤ M ≤ N

**Code :-**

//{ Driver Code Starts

#include <bits/stdc++.h>

using namespace std;

// } Driver Code Ends

class Solution{

public:

long long findMinDiff(vector<long long> a, long long n, long long m){

if(m==1) return 0;

sort(a.begin(), a.end());

long long ans=LLONG\_MAX;

for(auto i=m-1; i<n; i++)

ans = min(ans, (a[i]-a[i-m+1]));

return ans;

}

};

//{ Driver Code Starts.

int main() {

long long t;

cin>>t;

while(t--)

{

long long n;

cin>>n;

vector<long long> a;

long long x;

for(long long i=0;i<n;i++)

{

cin>>x;

a.push\_back(x);

}

long long m;

cin>>m;

Solution ob;

cout<<ob.findMinDiff(a,n,m)<<endl;

}

return 0;

}

// } Driver Code Ends

**T.C :- O(N \* log N)**

**S.C :- O(1)**