



[Home](#) » [Practice\(Easy\)](#) » Maximum Weight Difference

# Maximum Weight Difference

| Problem Code: **MAXDIFF**

Submit



Chef has gone shopping with his 5-year old son. They have bought **N** items so far. The items are numbered from **1** to **N**, and the item **i** weighs **W<sub>i</sub>** grams.

Chef's son insists on helping his father in carrying the items. He wants his dad to give him a few items. Chef does not want to burden his son. But he won't stop bothering him unless he is given a few items to carry. So Chef decides to give him some items. Obviously, Chef wants to give the kid less weight to carry.

However, his son is a smart kid. To avoid being given the bare minimum weight to carry, he suggests that the items are split into two groups, and one group contains exactly **K** items. Then Chef will carry the heavier group, and his son will carry the other group.

Help the Chef in deciding which items should the son take. Your task will be simple. Tell the Chef the maximum possible difference between the weight carried by him and the weight carried by the kid.

## Input:

The first line of input contains an integer **T**, denoting the number of test cases. Then **T** test cases follow. The first line of each test contains two space-separated integers **N** and **K**. The next line contains **N** space-separated integers **W<sub>1</sub>**, **W<sub>2</sub>**, ..., **W<sub>N</sub>**.

## Output:

For each test case, output the maximum possible difference between the weights carried by both in grams.

## Constraints:

- $1 \leq T \leq 100$
- $1 \leq K < N \leq 100$
- $1 \leq W_i \leq 100000$  ( $10^5$ )

## Example:

Input :

```
2
5 2
8 4 5 2 10
8 3
1 1 1 1 1 1 1
```

Output :

```
17
2
```

## Explanation:

**Case #1:** The optimal way is that Chef gives his son **K=2** items with weights **2** and **4**. Chef carries the rest of the items himself. Thus the difference is: **(8+5+10) – (4+2) = 23 – 6 = 17**.

**Case #2:** Chef gives his son **3** items and he carries **5** items himself.

All submissions for this problem are available.

Author: [vamsi\\_adm](#)

Tester: 

6★

[laycourse](#)

Editorial: <https://discuss.codechef.com/problems/MAXDIFF>

Tags: [april13](#), [cakewalk](#), [greedy](#), [sorting](#), [vamsi\\_adm](#)

Date Added: 20-02-2013

Time Limit: 2 secs

Source Limit: 50000 Bytes

Languages: CPP14, C, JAVA, PYTH 3.6, PYTH, CS2, ADA, PYP3, TEXT, PAS fpc, RUBY, PHP, NODEJS, GO, TCL, HASK, PERL, SCALA, BASH, JS, PAS gpc, BF, LISP sbcl, CLOJ, LUA, D, CAML, ASM, FORT, FS, LISP clisp, SCM guile, PERL6, CLPS, WSPC, ERL, ICK, NICE, PRLG, ICON, PIKE, SCM qobi, ST, NEM

Submit

Comments ▶

CodeChef is a competitive programming community

[About CodeChef](#) | [Contact Us](#)

The time now is: 12:28:18 AM  
Your IP: 157.47.66.179

CodeChef uses SPOJ © by [Sphere Research Labs](#)

In order to report copyright violations of any kind, send in an email to [copyright@codechef.com](mailto:copyright@codechef.com)

### CodeChef - A Platform for Aspiring Programmers

CodeChef was created as a platform to help programmers make it big in the world of **algorithms**, **computer programming**, and **programming contests**. At CodeChef we work hard to revive the geek in you by hosting a **programming contest** at the start of the month and two smaller programming challenges at the middle and end of the month. We also aim to have training sessions and discussions related to **algorithms**, **binary search**, technicalities like **array size** and the likes. Apart from providing a platform for **programming competitions**, CodeChef also has various algorithm tutorials and forum discussions to help those who are new to the world of **computer programming**.

### Practice Section - A Place to hone your 'Computer Programming Skills'

Try your hand at one of our many practice problems and submit your solution in the language of your choice. Our **programming contest** judge accepts solutions in over 55+ programming languages. Preparing for coding contests were never this much fun! Receive points, and move up through the CodeChef ranks. Use our practice section to better prepare yourself for the multiple **programming challenges** that take place through-out the month on CodeChef.

### Compete - Monthly Programming Contests, Cook-off and Lunchtime

Here is where you can show off your **computer programming skills**. Take part in our 10 days long monthly coding contest and the shorter format Cook-off and Lunchtime **coding contests**. Put yourself up for recognition and win great prizes. Our **programming contests** have prizes worth up to INR 20,000 (for Indian Community), \$700 (for Global Community) and lots more CodeChef goodies up for grabs.

### Programming Tools

[Online IDE](#)

[Upcoming Coding Contests](#)

[Contest Hosting](#)

[Problem Setting](#)

[CodeChef Tutorials](#)

[CodeChef Wiki](#)

### Practice Problems

[Easy](#)

[Medium](#)

[Hard](#)

[Challenge](#)

[Peer](#)

[School](#)

[FAQ's](#)

### Initiatives

[Go for Gold](#)

[CodeChef for Schools](#)

[College Chapters](#)

[CodeChef for Business](#)

### Policy

[Terms of Service](#)

[Privacy Policy](#)

[Refund Policy](#)

[Code of Conduct](#)

[Bug Bounty Program](#)