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Judging Servers

Max. score: 20

As we all know, you are the chief judge for the upcoming Shopee Code League hosted by our favorite E-Commerce platform Shopee. You have already selected N problems from hundreds of thousands of problems from your quality Problem Bank. Since you want to make every contestant happy even if he/she got Wrong Answers on every problem during the contest, you have decided to judge each problem on a different server.

Now you have to buy N judging servers from SEA Server Limited which is a reputed company. SEA Server Limited has total S servers in a row numbered from 1 to S and you have to choose N servers from these S servers. The i th server has a price tag of P_i where $1 \leq i \leq S$. You can not rent these servers on an hour or day basis. However, SEA Server Limited has a lifetime offer for you. If you buy any server then you get one of the adjacent servers for free if you wish. If you choose to buy the i th server then you can get the $(i-1)$ th or $(i+1)$ th server for free if you want to take it for free. The contest date has a tag of coming soon and the contest organizers want to know the total cost for the problem set and judging servers from you. Since you are the ultimate chief judge who wants to maximize your profit and as well as make every contestant happy. You have to choose N servers with lowest cost possible to maximize your profit.

Input

Input starts with an integer T ($1 \leq T \leq 50$), denoting the number of test cases.

Each case starts with two integers S ($1 \leq S \leq 1000$) and N ($1 \leq N \leq 5$). Next line contains S integers separated by space and the i th integer of this line represents the price tag P_i of the i th server ($0 \leq P_i \leq 10^9$).

Output

For each case, print the case number and the minimum cost to buy the N servers.

SAMPLE INPUT

SAMPLE OUTPUT

Explanation

In the second case, you can pay for the 3rd and the 4th servers with a cost of 115 and take the 2nd or 5th server for free.

Time Limit:

2.0 sec(s) for each input file.

Memory Limit:

256 MB

Source Limit:

1024 KB

Marking Scheme:

Score is assigned if any testcase passes.

Allowed Languages:

Bash, C, C++, C++14, C++17, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, Java 14, JavaScript(Rhino), JavaScript(Node.js), Julia, Kotlin, Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, Python 3.8, R(RScript), Racket, Ruby, Rust, Scala, Swift-4.1, Swift, TypeScript, Visual Basic

RECENT SUBMISSIONS

DEVELOPERS	RESULT	LANGUAGE
yoda		C++14
WeebooSlayer		C++14
coffinDance		C++17
Chi Thuc Nguyen		Python 3.8
Bucket		C++
Resistance		Python 3.8
ACMHIT		C++14

View All

CODE EDITOR

保存 C (gcc 5.4.0)

```
1 /*
2 // Sample code to perform I/O:
3 #include <stdio.h>
4
5 int main(){
6     int num;
7     scanf("%d", &num);           // Reading input from STDIN
8     printf("Input number is %d.\n", num); // Writing output to STDOUT
9 }
10
11 // Warning: Printing unwanted or ill-formatted data to output will cause the test cases to fail
12 */
13
14 // Write your code here
15
```

1/1 visible

提供自定义输入

编译&测试

提交

Tip: You can submit any number of times you want. Your best submission is considered for computing total score.

Your Rating:

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