

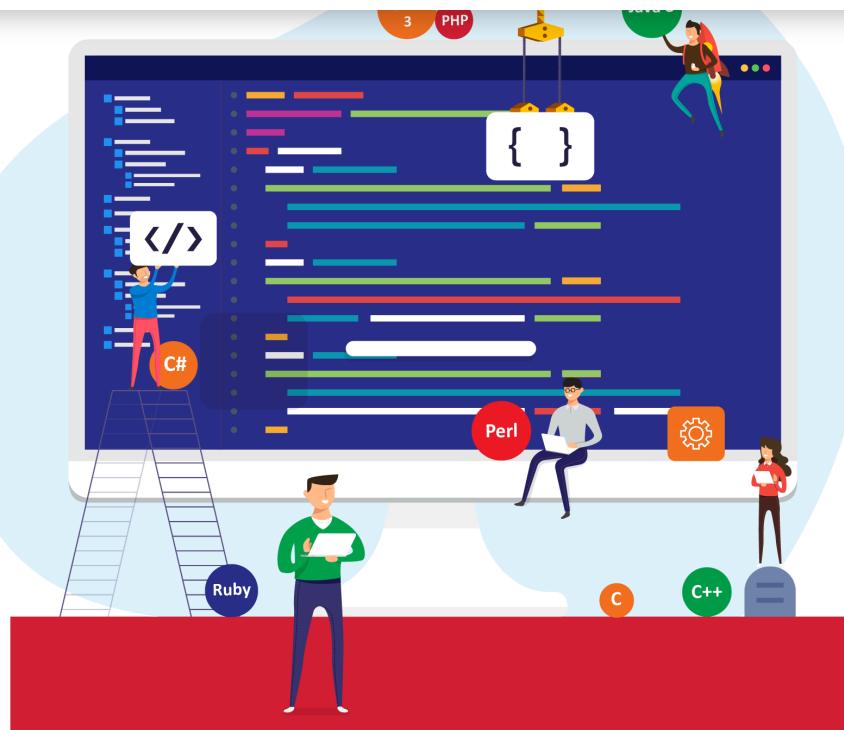
TCS CodeVita™ Season 12

MockVita questions have been rolled over as
Practice questions.
Register now to participate.
Unite in the arena. Prepare for victory.

[Register Now!](#)

 6**Hours** to prove your mettle 20000**USD** in prize money 1**Global Ranking List** to top coders

ABOUT US



Get ready to unlock the world of programming excitement with CodeVita!

Launched in 2012, TCS CodeVita is a global programming competition designed to identify top coders around the world. It's a dynamic contest that unites people from diverse backgrounds and cultures, shattering boundaries. The "Guinness Book of World Records" listed TCS CodeVita as 'The world's largest programming contest' with registrations from 98 countries/regions, proving it as a true global phenomenon.

In Season 11, participation soared to 444k+ contestants, representing 3,500+ institutes. Imagine participants from 10 regions engaging in an electrifying battle during the grand finale!

This year, we are "United by Code", celebrating a global community bound by the shared passion for programming. This season 12 promises more thrilling challenges and unforgettable experiences, highlighting the unity and diversity of coders worldwide.

Are you intrigued? Brace yourself for another extraordinary journey with TCS CodeVita, where coding transcends boundaries.



What's in it for students?

- Top 3 coders to win total prize money of USD 20,000
- Chance to explore exciting careers* with one of the world's most powerful brands
- Chance to compete with some of the best coders in the world
- Platform to showcase your programming skills
- Finalists stand a chance to travel to India for the season 12 live grand finale experience

*as applicable in the respective geographies



Eligibility

Current graduation or post-graduation students who are

- Studying in any stream of science or engineering
- Expecting to complete their course in the year of 2025, 2026, 2027 or 2028
- From any recognized institute across the globe

THE JOURNEY

Journey of a thousand miles begins with one step.

— Lao Tzu



Registration

To get started, click on the register button.



MockVitas

MockVitas are just like actual rounds to give demo of the actual contest.



Rounds

Clear the actual rounds to move further in your CodeVita journey.

SAMPLE QUESTIONS

On A Cube

Sorting Boxes

Sport Stadium

Water Cistern

Square Free Numbers

Codu and Sum Love

Obstacle Game

The parcel section of the Head Post Office is in a mess. The parcels that need to be loaded to the vans have been lined up in a row in an arbitrary order of weights. The Head Post Master wants them to be sorted in the increasing order of the weights of the parcels, with one exception. He wants the heaviest (and presumably the most valuable) parcel kept nearest his office.



The parcel section of the Head Post Office is in a mess. The parcels that need to be loaded to the vans have been lined up in a row in an arbitrary order of weights. The Head Post Master wants them to be sorted in the increasing order of the weights of the parcels, with one exception. He wants the heaviest (and presumably the most valuable) parcel kept nearest his office.

You and your friend try to sort these boxes and you decide to sort them by interchanging two boxes at a time. Such an interchange needs effort equals to the product of the weights of the two boxes.

The objective is to reposition the boxes as required with minimum effort.

Input

The first line consists of two space separated positive integers giving the number of boxes (N) and the position of the Head Post Master's office (k) where the heaviest box must be.

The second line consists of N space separated positive integers giving the weights of the boxes. You may assume that no two weights are equal.

Output

The output is one line giving the total effort taken to get the boxes in sorted order, and the heaviest in position k.

Constraints

$N \leq 50$

Weights ≤ 1000

Difficulty Level

Complex

Time Limit (secs)

1

Example 1

Input

5 2

20 50 30 80 70

Output

3600

Explanation

There are 5 boxes ($N=5$) and the heaviest box must be in position 2 ($k=2$). If we look at the final order (sorted, with the heaviest at position 2), it should be 20 80 30 50 70. If we look at this, we notice that only the 50 and the 80 parcels need to be exchanged. As this takes effort of the product of the weights, the effort is 4000.

Further reduction can be obtained if we use the smallest package (20) as an intermediary. If we exchange 20 with 50 (effort 1000), then with 80 (effort 1600) and back with 50 again (effort 1000), the effect is the same, with a total effort of 3600 (less than the effort obtained by the direct move).

The results after the optimal sequence of exchanges are

50 20 30 80 70

50 80 30 20 70

20 80 30 80 70

As this takes an effort of 3600, the output is 3600.

Example 2

Input

6 3

30 20 40 80 70 60

Output

There are 6 parcels, and the heaviest should be at position 3. Hence the final order needs to be 20 30 80 40 60 70. If we look at the initial position, we see that 20 and 30 need to be exchanged (effort 600), 40 and 80 need to be exchanged (effort 3200) and 60 and 70 need to be exchanged (effort 4200). Hence the total effort is $600+3200+4200=8000$.

If we use the same approach as in Example 1, we get the following efforts

(600) 20 30 40 80 70 60

(3200) 20 30 80 40 70 60

(1200) 60 30 80 40 70 20

(1400) 60 30 80 40 20 70

(1200) 20 30 80 40 60 70

A total effort of 7600 is obtained rather than an effort of 8000, which is the output.

GALLERY



FREQUENTLY ASKED QUESTIONS

In doubt? Don't worry! Check out our Frequently Asked Questions enclosed below.

How do I register and login for the contest?

What if I accidentally delete my Microsoft Authenticator account?

Can I go back to the welcome page after starting to answer the coding problems?

Do I have to attempt the questions in serial order?

Where can I see the list of languages and compilers with their version?

If I move to question no. 2 without submitting question 1, does the timer continue for Question 1?

If I have referred/used a code from the internet, do I have to declare the same?

Where can I check the status of questions submitted by me?

If I close my browser will the codes written be saved on

How long before a session will expire?

I closed my browser without logging out. I am unable to login.

What is the purpose of Code Attribution?

What do different answer statuses mean?

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