

# The highest profitable product

Your store has  $n$  products, each product has unique identity. Given the cost, the price and the number of items you sold last month for each product, find out the top  $k$  highest profit products. Note that if some products have same profit as the  $k$ -highest profit product, output them too.

## Input

The first line contains two integers  $n$  and  $k$  ( $k \leq n \leq 10^5$ ).

Each line in the next  $n$  lines contains product's identity, product's name, the price, the cost and the quantity you sold.

Note: All integers are less than  $2 \cdot 10^5$

## Output

The list of top highest profit products which are in order of decreasing the total profit, and increasing identity. Each product output product's identity, product's name and the total profit

## Sample

| Input            | Output     |
|------------------|------------|
| 4 2              | 3 phone 13 |
| 1 laptop 10 8 3  | 1 laptop 6 |
| 2 watch 20 17 2  | 2 watch 6  |
| 3 phone 100 87 1 |            |
| 4 glasses 10 9 5 |            |