The Team of ACM/ICPC

Time Limit=4000ms Memory Limit=65536k

There are 3 people in a team of ACM/ICPC. Every member of the team will occasionally make some mistakes in the contest. So Mr.F tests every one and everybody gets a Mistake Value x. If the Mistake Values of the 3 members of a team are respectively a, b, c, then the Mistake Value of the team is m = min{ |a-b|, |b-c|, |c-a| }.

Your job is to find the best plan to minimize M which is the sum of all the Mistake Value of teams.

INPUT

In the first line, there are two integers N and K. N is the number of people who will make teams and K is the number of teams which is supposed to make. (3<= N <=100000) (0<= k <= N/3 )

There are N lines followed. Each line has an integer D, which is the Mistake Value of the person.(0<=D<=1000000000)

OUTPUT

Print the minimal M in one line,

SAMPLE INPUT

7 2

1

5

3

2

4

7

9

SAMPLE OUTPUT

2