1. Mozzarella and Sticks (MOZZ)

Problem Description:

Chef can eat X mozzarella sticks per plate of food. However, for every Y sticks he eats, he gets an extra stick for free. If Chef ate a total of R mozzarella sticks, find the maximum number of plates he could have ordered.

Sample Input:

R = 10, X = 2, Y = 5

Sample Output:

6

Testcases:

No.	Input (R, X, Y)	Output
1	R=7, X=2, Y=3	3
2	R=10, X=10, Y=100	1
3	R=1, X=1, Y=1	1
4	R=12, X=3, Y=2	3
5	R=20, X=5, Y=1	2

---

2. Palindrome Checker (PALINDRCHECK)

Problem Description:

Given a string S, determine if it is a palindrome. A palindrome is a string that reads the same backward as forward.

Sample Input:

S = "racecar"

Sample Output:

Yes

Testcases:

No.	Input (S)	Output
1	"a"	Yes
2	"aa"	Yes
3	"ab"	No
4	"wasitacaroricatisaiv"	Yes

---

3. Kitchen Cost (KITCHENCOST)

Problem Description:

Chef wants to buy items for his kitchen. There are N items, each with a freshness value Ai and a cost Bi. Chef only buys items with a freshness value of at least X. Find the total cost Chef will incur.

Sample Input:

N = 3, X = 5

A = [4, 5, 6], B = [10, 20, 30]

Sample Output:

50

Testcases:

No.	Input (N, X, A, B)	Output
1	N=1, X=10, A=[5], B=[100]	0
2	N=3, X=1, A=[1, 1, 1], B=[5, 5, 5]	15
3	N=2, X=10, A=[10, 20], B=[50, 60]	110
4	N=4, X=5, A=[1, 2, 3, 4], B=[10, 20, 30, 40]	0
5	N=3, X=5, A=[5, 5, 5], B=[10, 10, 10]	30

---

4. Rating in Practice (RATINGINPRAC)

Problem Description:

Chef is looking at the difficulty ratings of N problems he solved in order. He considers his practice "good" if the difficulty of the problems is non-decreasing. Determine if his practice was good.

Sample Input:

N = 4

A = [1, 2, 4, 4]

Sample Output:

Yes

Testcases:

No.	Input (N, A)	Output
1	N=1, A=[10]	Yes
2	N=3, A=[100, 100, 100]	Yes
3	N=4, A=[1, 2, 4, 3]	No
4	N=2, A=[5, 1]	No
5	N=5, A=[1, 2, 3, 4, 5]	Yes

---

5. The Water Cooler 2 (WATERCOOLER2)

Problem Description:

The cost of renting a water cooler is X coins per month. The cost of purchasing it is Y coins. Find the maximum number of months Chef can rent the cooler such that the total rental cost is strictly less than the purchase cost.

Sample Input:

X = 5, Y = 12

Sample Output:

2

Testcases:

No.	Input (X, Y)	Output
1	X=3, Y=3	0
2	X=10, Y=1	0
3	X=2, Y=11	5
4	X=5, Y=25	4
5	X=1, Y=10	9

---

6. Valid Anagram (VALIDANAGRAM)

Problem Description:

Given two strings S and T, determine if T is an anagram of S. An anagram is formed by rearranging the letters of a different word or phrase, typically using all the original letters exactly once.

Sample Input:

S = "anagram”, T = "nagaram"

Sample Output:

Yes

Testcases:

No.	Input (S, T)	Output
1	S="rat", T="car"	No
2	S="a", T="aa"	No
3	S="ab", T="ba"	Yes
4	S="aabb", T="abab"	Yes
5	S="silent", T="listen"	Yes

---

7. Cutoff Score (CUTOFF)

Problem Description:

There are N students who took an exam, and their scores are stored in array A. You need to find a cutoff score X such that exactly K students scored strictly more than X. Find the maximum possible value of X.

Sample Input:

N = 5, K = 3

A = [10, 20, 30, 40, 50]

Sample Output:

29

Testcases:

No.	Input (N, K, A)	Output
1	N=5, K=5, A=[10, 20, 30, 40, 50]	9
2	N=4, K=1, A=[5, 5, 5, 100]	99
3	N=5, K=1, A=[1, 2, 3, 4, 5]	4
4	N=3, K=2, A=[10, 20, 30]	19
5	N=6, K=3, A=[10, 20, 30, 40, 50, 60]	39

---

8. Facebook Likes (FACEBOOK)

Problem Description:

A group of N friends posted photos. Friend i received A_i likes and B_i comments. The "best" photo is the one with the most likes. If there is a tie in likes, the one with more comments is better. Find the index (1-based) of the friend who posted the best photo.

Sample Input:

N = 3

A = [5, 6, 6], B = [10, 8, 12]

Sample Output:

3

Testcases:

No.	Input (N, A, B)	Output
1	N=2, A=[10, 10], B=[5, 10]	2
2	N=1, A=[1], B=[1]	1
3	N=3, A=[10, 5, 2], B=[1, 100, 100]	1
4	N=2, A=[10, 10], B=[20, 20]	1
5	N=4, A=[5, 8, 8, 2], B=[10, 5, 12, 10]	3

---

9. Largest and Second Largest (LARGESECOND)

Problem Description:

Given an array A of N integers, find the maximum possible sum of two **distinct** elements from the array.

Sample Input:

N = 5

A = [1, 5, 2, 4, 5]

Sample Output:

9 (Sum of 5 and 4)

Testcases:

No.	Input (N, A)	Output
1	N=2, A=[10, 20]	30
2	N=4, A=[10, 10, 5, 5]	15
3	N=5, A=[1, 2, 3, 4, 5]	9
4	N=3, A=[100, 1, 100]	101
5	N=4, A=[9, 8, 9, 8]	17

---

10. Minimize Operations (OPMIN)

Problem Description:

You are given an array A of N integers. In one operation, you can choose an element and change it to any other integer. Find the minimum number of operations required to make all elements in the array equal.

Sample Input:

N = 4

A = [1, 2, 2, 3]

Sample Output:

2

Testcases:

No.	Input (N, A)	Output
1	N=3, A=[1, 1, 1]	0
2	N=3, A=[1, 2, 3]	2
3	N=5, A=[1, 2, 2, 2, 3]	2
4	N=2, A=[1, 2]	1
5	N=6, A=[5, 5, 1, 2, 5, 3]	3

11. Character Frequency (CHARFREQ)

Problem Description:

Given a string S and a character C, find how many times C appears in S. The check should be case-sensitive.

Sample Input:

S = "abracadabra", C = 'a'

Sample Output:

5

Testcases:

No.	Input (S, C)	Output
1	S="Apple", C='p'	2
2	S="Apple", C='A'	1
3	S="banana", C='z'	0
4	S="aaaaa", C='a'	5
5	S="12121", C='1'	3

12. Discount Calculator (DISCOUNT)

Problem Description:

A shop offers a discount based on the total bill amount. If the bill is 1000 or more, the customer gets a flat 20% discount. Otherwise, they get a 10% discount. Given the initial bill amount B, calculate the final amount Chef has to pay.

Sample Input:

B = 1200

Sample Output:

960

Testcases:

No.	Input (B)	Output
1	B=1000	800
2	B=500	450
3	B=999	899.1
4	B=2000	1600
5	B=100	90

13. Maximum Draw (MAXDRAW)

Problem Description:

Chef is playing a game where he earns points for every round he wins. However, if a round ends in a draw, he earns 0 points. Given the total points P Chef earned and the points W awarded per win, find the minimum number of rounds that must have been played. Assume Chef never lost a round (he only won or drew).

Sample Input:

P = 10, W = 3

Sample Output:

4 (3 wins = 9 points, plus 1 draw to reach or exceed the points needed to represent the total)

Testcases:

No.	Input (P, W)	Output
1	P=10, W=2	5
2	P=7, W=3	3
3	P=0, W=5	0
4	P=100, W=1	100
5	P=15, W=4	4

14. Even-Odd Sum (EVENODDSUM)

Problem Description:

Given an array A of N integers, calculate the absolute difference between the sum of all even numbers and the sum of all odd numbers in the array.

Sample Input:

N = 4, A = [1, 2, 3, 4]

Sample Output:

2 (Even sum = 6, Odd sum = 4. |6 - 4| = 2)

Testcases:

No.	Input (N, A)	Output
1	N=3, A=[1, 3, 5]	9
2	N=2, A=[2, 4]	6
3	N=4, A=[10, 11, 12, 13]	2
4	N=1, A=[7]	7
5	N=5, A=[0, 2, 4, 1, 3]	2

15. The Pizza Slice (PIZZASLICE)

Problem Description:

Chef has a circular pizza. He makes N straight cuts through the **center** of the pizza. Each cut divides the pizza into equal sectors. After making the cuts, he takes K slices. Find the total angle (in degrees) of the pizza Chef has taken.

Sample Input:

N = 4, K = 2

Sample Output:

90

Testcases:

No.	Input (N, K)	Output
1	N=1, K=1	180
2	N=3, K=6	360
3	N=6, K=1	30
4	N=2, K=3	270
5	N=180, K=1	1