

Problem 2 – Chessboard Game

Goshko is a keen chess player. One day he was bored with his work and decided to take a break and create a game using the chessboard. He takes a string, e.g. "Software University_2345", converts its symbols to numbers through **their ASCII codes** and fills a chessboard with them. He takes the values of **capital and small letters and digits** only. The value of **any other symbol** is **zero**. He fills the board's squares with the numbers, from left to right and from top to bottom (see the example below). **The size of the chessboard is n*n (e.g. n = 5) and it always starts with a black square. N will always be an odd number.**

S	o	f	t	w
a	r	e		U
n	i	v	e	r
s	i	t	y	_
2	3	4	5	

83	111	102	116	119
97	114	101	0	85
110	105	118	101	114
115	105	116	121	0
50	51	52	53	0

Let's assume that there are two competing teams: the **black team** and the **white team**. Every team's **score** is the **sum of the values in its squares**. However if a square contains a **capital letter** its value should be **given to the opposing team**. In the example above the scores are calculated as follows:

White Team Score = 83 'S' + 111 'o' + 116 't' + 97 'a' + 101 'e' + 105 'i' + 101 'e' + 115 's' + 116 't' + 51 '3' + 53 '5' = 1049

Black Team Score = 102 'f' + 119 'w' + 114 'r' + 85 'U' + 110 'n' + 118 'v' + 114 'r' + 105 'i' + 121 'y' + 50 '2' + 52 '4' = 1090.

Input

The input data should be read from the console.

- The **first line** holds the **size n** of the chessboard.
- The **second line** holds the input string.

The input data will always be valid and in the format described. There is no need to check it explicitly.

Output

The output should be printed on the console.

- The first output line holds the **winning team** in format: "The winner is: **{name}** team".
- The second line holds the difference between the scores of the winning and the losing team.
- In case the score is **equal**, print "Equal result: **{points}**". Do not print the difference in this case!

Constraints

- The number **n** will be an **odd integer** in the range [1 ... 9].
- Allowed working time for your program: 0.1 seconds. Allowed memory: 16 MB.

Examples

Input	Output
5 Software University_2345	The winner is: black team 41

Input	Output
3 aa	Equal result: 97