Problem H: Keep on Tr4king

After getting past the robots in the last room, CORA comes to a small work room that's currently empty. This gives her some time to think! The next room ahead has more hacked robots in it, and these ones don't seem to be following a surveillance pattern like the last ones.

In this work room, CORA finds a Tr4k unit. This is an out-dated robot model previously sold by Bot-Works. Luckily this model is too basic to have been affected by the malware. Looking at the Tr4k unit gives CORA an idea. She'll program the unit to cause a diversion in the next room, buying her time to get through to the next elevator.

You should write a program which reads in the Tr4k program and computes how much time it will take to run, so that CORA can know ahead of time how much time she has while the Tr4k unit is distracting the hacked robots.

The Tr4k units are simple machines designed to follow pre-programmed paths. The machine has 4 memory locations called `A`, `B`, `C`, and `D`. Each memory location can store one integer value. It supports 8 different instructions described in the following table. Here the memory locations such as `M1` or `M2` can be any of the four memory locations a Tr4k unit has (either `A`, `B`, `C` or `D`).

Instruction	**Meaning**
`set M1 VALUE`	sets the location `M1` to the given integer value
`add M1 M2 M3`	sets the location `M1` equal to `M2 + M3`
`mul M1 M2 M3`	sets the location `M1` equal to `M2 * M3`
`turn M`	turns the Tr4k unit `M` degrees
`drive M`	moves the Tr4k unit forward `M` feet
`jump LINE`	instead of going to the next instruction, moves to `LINE`
`eqjump M1 M2 LINE`	if `M1` is equal to `M2`, jump to `LINE`, otherwise go to the next instruction
`halt`	turns off the Tr4k unit

For a `turn` instruction, the number of degrees will always be a multiple of 90. Negative values will turn the Tr4k to its left while positive values will turn it to its right.

For a `drive` instruction, the Tr4k unit will be propelled the given number of feet. You can assume the value given will be positive.

For the `jump` and `eqjump` instructions, the line number given will always be valid. Lines are numbered beginning at 0.

The only instructions that take a significant amount of time to execute are the `turn` and `drive` instructions, and the time taken depends on how much turning or driving is being done. The Tr4k unit takes 1 second per 90 degrees being turned. It drives at a speed of 5 feet per second.

You should write a program to read in the Tr4k program and compute how much time the program takes. You can assume the Tr4k program will at some point halt.

Input

The first line of input is an integer N giving the number of lines in the Tr4k program. Following this are N lines, each containing one Tr4k instruction.

Output

You should output a single integer, giving the number of seconds the Tr4k unit will take to complete the given program. The answer should be rounded down if not a whole number.

Sample Input

```
11
set A 30
set B 90
set C 4
set D 0
eqjump C D 10
drive A
turn B
set D -1
add C C D
jump 3
halt
```

Sample Output

```
28
```