

## Ticket

To use a take-home service from one restaurant, customer have to receive ticket queue(**new**). When staff (there is only 1 staff) is ready, he will call for the next queue (**next**). Then, customer with the queue will be allowed to order. The manager wants to analyze time which customer wait to order, so he implemented the program to manage the problem.

## Input

- The first line is n that is a positive integer describe the number of the command lines follow this line
- Next n line are commands of ticket queue system. Each line has 1 command which has pattern like the table below.

Commands	Meanings	Display Output
resetrn	setting the starting number of the next queue to n (only call once when start the queue)	Nothing to display
new t	customer receives ticket queue on time t	<b>ticket n</b> , n is the latest queue number on the ticket queue.  (n will be increased by 1, whenever <b>new</b> command is called)
next	staff is ready to receive the next order from customer	<b>call n</b> , is the next queue ticket number waiting to order
order t	staff receive an order from a customer(who was the latest called from next) at time t	<b>qtime n dt</b> , where n is the queue number just called by "next". dt is the waiting time the customer holding this packet spent since "new" to order.
avg_qtime	display average waiting time of all customers who have come since the program started.(Only call when service was served)	<b>avg_qtime x</b> , where x is the average waiting time customer spent from the beginning of the program to the latest order time.  (Round the number before displaying with <b>round(avg,4)</b> , where avg is the average time)

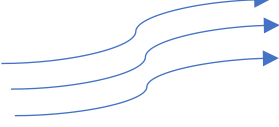
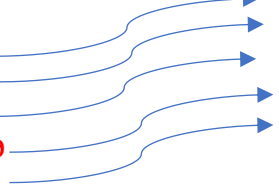
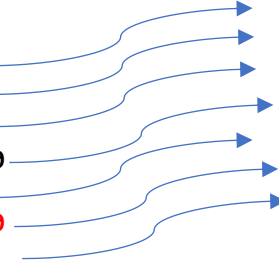
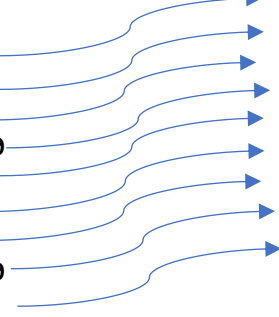
Note 1: Time t is not in hour or minute but is an integer (See in example)

Note 2: All commands will always be correct and in correct order.

## Output

The output will be displayed like in the table below.

## Examples

Input (from keyboard)	Output(on screen)
<pre> 4 reset 301 new 1100 new 1110 next </pre> 	<pre> ticket 301 ticket 302 Call 301 </pre>
<pre> 6 reset 301 new 1100 new 1110 next order 1120 avg qtime </pre> 	<pre> ticket 301 ticket 302 Call 301 qtime 301 20      &lt;- 20 is from 1120 - 1100 avg_qtime 20.0    &lt;- 20.0 is from 20/1 </pre>
<pre> 8 reset 301 new 1100 new 1110 next order 1120 next order 1150 avg qtime </pre> 	<pre> ticket 301 ticket 302 Call 301 qtime 301 20 call 302 qtime 302 40      &lt;- 40 is from 1150 - 1100 avg_qtime 30.0    &lt;- 30.0 is from (20+40)/2 </pre>
<pre> 14 reset 301 new 1100 new 1110 next order 1120 new 1130 next next order 1160 avg qtime order 1170 next order 1180 avg qtime </pre> 	<pre> ticket 301 ticket 302 Call 301 qtime 301 20 ticket 303 call 302          &lt;- queue 302 is absent call 303          &lt;- queue 303 is called qtime 303 30      &lt;- 30 is from 1160 - 1130 avg_qtime 25.0    &lt;- 25.0 is from (20+30)/2 ticket 304 call 304 qtime 304 10 avg_qtime 20.0    &lt;- 30.0 is from (20+30+10)/3 </pre>

Assign value to the variables

```
q = list()                                # List q collects proper ticket queues
n = int(input())                          # Number of commands
for k in range():
    c = input().split()                  # Read commands
    if c[0] == 'reset':
        ???
    elif c[0] == 'new':
        ???
    elif c[0] == 'next':
        ???
    elif c[0] == 'order':
        ???
    elif c[0] == 'avg_qtime':
        ???
    print( ??? , round(???,4) )
```