It's not uncommon for a program to invoke a function repeatedly with the same argument value for a particular parameter. In such cases, you can specify that such a parameter has a default argument, i.e., a default value to be passed to that parameter. When a program omits an argument for a parameter with a default argument in a function call, the compiler rewrites the function call and inserts the default value of that argument to be passed as an argument in the function call.

To improve the efficiency, it is also quite common to use inline function to reduce the number of function calls, and use reference parameters. Your goal is to write a program to calculate the two-dimensional offset in terms of the initial speed and the acceleration along with x and y coordinates in a given period of time according to the following equation:

$$x = v_0 t + \frac{1}{2} a t^2,$$

where the default values for the initial velocity, acceleration, and time are 1, 10, and 5, respectively.

Requirement: Use a single inline function with reference parameters and default argument values.
Prohibited: Use multiple functions for different numbers of parameters. Use C-style input/output.

Input

Each line contains an integer n, representing the number of parameters to be inputted, followed by n integers which in turn correspond to (if exist) the velocity along with x coordinate, the acceleration along with x coordinate, the velocity along with y coordinate, the acceleration along with y coordinate, and the time. The input ends with a single zero.

Output

For each line of input, output the two-dimensional offsets with end line stream manipulator. All the calculation must be completed using integer operations.

Sample Input

1 10
2 10 5
3 10 5 2
4 10 5 2 3
5 10 5 2 3 7
0

Sample Output

175 130
112 130
112 135
112 47
192 87