|  |  |  |
| --- | --- | --- |
| **I** | speed limit | |
| Input | Standard Input |
| Output | Standard Output |
| Time Limit | 5 seconds |

***Problem Description***

Basri, Lim and Rama are taking a road trip during their semester break. But the odometer in their car is broken, so they don't know how many miles they have driven. Fortunately, Bill has a working stopwatch, so they can record their speed and the total time they have driven. Unfortunately, their record keeping strategy is a little odd, so they need help computing the total distance driven. You are to write a program to do this computation.

For example, if their log shows

|  |  |
| --- | --- |
| **Speed (miles/hour)** | **Total elapsed time in hours** |
| 20 | 2 |
| 30 | 6 |
| 10 | 7 |

this means they drove 2 hours at 20 miles per hour, then 6−2 = 4 hours at 30 miles per hour, then 7−6=1 hour at 10 miles per hour. The distance driven is then (2)(20) + (4)(30) + (1)(10) = 40 + 120 + 10 = 170 miles. Note that the total elapsed time is always since the beginning of the trip, not since the previous entry in their log.

***Input***

The input consists of one or more data sets. Each set starts with a line containing an integer *n*, (1 ≤ n ≤ 10), followed by *n* pairs of values, one pair per line. The first value in a pair, *s*, is the speed in miles per hour and the second value, *t*, is the total elapsed time. Both *s* and *t* are integers, (1 ≤ *s* ≤ 90) and (1 ≤ *t* ≤ 12). The values for *t* are always in strictly increasing order. A value of −1 for *n* signals the end of the input.

***Output***

For each input data set, print the distance driven, followed by a space, followed by the word "miles".

***Sample Input Output***

|  |  |
| --- | --- |
| **Sample Input** | **Sample Output** |
| 3  20 2  30 6  10 7  2  60 1  30 5  4  15 1  25 2  30 3  10 5  −1 | 170 miles  180 miles  90 miles |

*Adapt from: ACM Mid-Central USA 2004*

*IDs for Online Judge: POJ 2017, ZOJ 2176, UVA 3059*