

Problem 1 - Waiting at the DMV

Problem Description

For this problem, you will write a program that calculates wait times for patrons as they arrive at the DMV. Patrons arriving at the DMV are each trying to complete one of three possible tasks, each of which has a specific length of time to process:

- A. Renew Driver's License (5 minutes)
- B. Register Vehicle (10 minutes)
- C. Take Driving Written Test (20 minutes)

There are three desks at the DMV, each of which handles only one of those types of task. That means that no matter how long the line is to renew a license, if there's no one registering a vehicle, then someone who comes in for a vehicle registration won't have to wait.

Given three initially empty lines, and a stream of visitors with a task and a time of arrival, for each visitor output the calculated wait time for that customer, in minutes. The task is specified by the letters given above (A, B, or C). Times are specified as a three or four digit number, where the first one or two digits represent the hour of arrival (0-23) and the second two digits represent the minute of arrival (00-59).

Input will be in time order, and there may be multiple arrivals at a single time. Input times will not cross into the next day, though it is possible for a wait time to cross into the next day, as this is the DMV, and they like to make you wait.

Sample Input:

A	300
B	305
C	305
A	310
B	310
C	310
A	310
A	310
B	1350

Sample Output:

0
0
0
0
5
15
5
10
0