Gate–detection system

Traffic is essential in our daily life. A well-designed system can help ease traffic congestion during peak hours. As a CSIE student, you are assigned to design a gate-detection system.

Conditions: Starting from 12:00 noon, assume that a stream of motorcycles arrives every 10 minutes. If the number of motorcycles in one time period exceeds 20% of the total number within the hour (12:00–13:00), the gate must remain **open continuously** during that period, and the judgment will be recalculated at the beginning of the next period. Otherwise, the gate is in an **open by vehicles** state (it only opens when a motorcycle passes).

1. Question 1 (hw4_1.c)

Write a program that reads **six integers**, each representing the number of motorcycles in one period.
The program should output the **time** (from 12:00 to 12:50) and the **gate status** for **all six periods**.

(Input)=>

23 44 156 83 23 47

(output)=>

Output

12:00 open by vehicles

12:10 open by vehicles

12:20 open continuously

12:30 open continuously

12:40 open by vehicles

12:50 open by vehicles

2. Question 2 (hw4_2.c)

Modify your program so that after typing in all six groups of motorcycle numbers, the user can input a number between **1 and 6**.
The program should then use a **switch-case** statement to output the corresponding **time period** and **gate status** of that group.

(input)=>

23 44 156 83 23 47

3

(output)=>

12:20 open continuously

You should submit 2 two files: hw4_1.c, hw4_2.c