Coding Arena

<C*deVita/>
the TCS Coding Contest

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Rules & Regulations

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Problem : Robbery

Sam is a robber. He decides to rob a diamond from a museum. There are 4 levels of security.

First level:- At museum gate. Security Guards work in shifts of 1 hour. After which, another security guard comes in (after a gap of 5 minutes) and works again for 1 hour and so on.

Time taken to go from first level to second level is 2 minutes.

Second level:- At Museum door. One security guard works for 2 hours. After that, another security guard comes in (after a gap of 5 minutes) and works again for 2 hours and so on.

Time taken to go from second level to third level is 2 minutes.

Third level:- CCTV Surveillance. The robber can hack CCTV surveillance. Hacking process takes 60 minutes.

Time taken to go from third level to fourth level is 2 minutes.

Fourth level:- Laser Surveillance . The robber can hack laser surveillance. Hacking process takes 10 minutes.

Time taken to go from fourth level to museum treasury is 2 minutes.

He needs the same time to come out, and needs to hack in the system (or use his key) both ways

Sam the hacker wants to know whether he will be caught or not. The heist has following constraints:

1) The hacker can hack the Electronic Surveillances maximum of 3 times. He also has a key, which he can use just once to bypass one Electronic Surveillance and pass from one level to another level easily with no need for hacking.

2) The security guards start their shift at 12:00 A.M. The robbery can be successful only if Sam can get out of the museum on the same day. If the Sam crosses 23:59 P.M, he will be caught.

3) Sam is very superstitious, and only enters or leaves the museum at times whose minutes are multiples of 5.

4) The time zone is in 24 Hour format.

Calculate minimum time taken by Sam, to get inside, take the diamond, and safely get out without getting caught.

Input Format:

Time of arrival of the robber at the museum in 24 hour format

Output Format:

Total time in minutes for the robbery to be completed
Time at which the robber leaves the museum if the robbery is successful else "ROBBER CAUGHT"

Constraints:

Example 1

Input
03:30
Output
305
08:35
Explanation
Total Time taken for the Robbery is 305 Minutes. The time at which the robber will move out of Museum is 08:35. Time taken by Sam to move from level 1 to level 2 = 42 minutes, similarly to move from level 2 to 3 and 3 to 4 and getting out back safely he will take 263 minutes, thus total of 305 minutes.

Example 2

Input
23:55

Output
ROBBER CAUGHT
ExplanationAs it is already 23:55 and guard duty would not change until day end, thus Sam could not steal on the same day. So he is caught.

Note:

Please do not use package and namespace in your code. For object oriented languages your code should be written in one class.

Note:

Participants submitting solutions in C language should not use functions from <conio.h> / <process.h> as these files do not exist in gcc

Note:

For C and C++, return type of main() function should be int.

Submit Answer

I , **SOURAV KUMAR** confirm that the answer submitted is my own.
I would like to provide attribution to the following sources.

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