# A test of "programming for beginners" – March 2016

## Task 3. In time for the exam

Student should go **on** **an exam** **at** **a specific time** (e.g. 9:30). He comes into the examination hall in a **time of arrival** (for example 9:40). It is considered that the student had come **in time**, if it has arrived at the time of the examination or until half an hour before. If it is more than 30 minutes, it's **early**. If he came after hours of the exam, it is **too late**. Write a program that introduces an exam time and arrival time and prints whether the student has come **on time**, whether it's **early** or **late** , and **how many hours or minutes** is early or late.

### Login

From the console read **4 whole numbers** (one per line):

        The first line contains the **time of the exam** – an integer from 0 to 23.

        The second line contains the **minutes of the exam** – an integer from 0 to 59.

        The third line contains the **time of arrival** – an integer from 0 to 23.

        The fourth row contains the **minute of arrival** – an integer from 0 to 59.

### Exit

The first line of print:

        "**Late**" If the student arrives later than the time of the exam.

        "**On time**" If the student arrives exactly at the hour of exam or up to 30 minutes earlier.

        "**Early**" If the student arrives more than 30 minutes before the time of the exam.

If a student arrives with at least a minute difference by the time of the exam, print the next line:

        " **mm minutes before the start**" for coming earlier with less than an hour.

        " **hh:mm hours before the start**" to align with 1 hour or more. The minutes always print with 2 digits, for example "1:05".

         " **mm minutes after the start**" for a delay in an hour.

        " **hh:mm hours after the start**" of a delay of 1 hour or more. The minutes always print with 2 digits, for example "1:03".

### Sample input and output

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Login** | **Exit** |  | **Login** | **Exit** |  | **Login** | **Exit** |
| 9  30  9  50 | Late  20 minutes after the start | 9  0 0  1 0  3 0 | Late  1:30 hours after the start | 1 0  0 0  1 0  00 | On time |
| 9  0 0  8  30 | On time  30 minutes before the start |  | 14  00  13  55 | On time  5 minutes before the start | 11  30  10  55 | Early  35 minutes before the start |
| 16  00  15  00 | Early  1:00 hours before the start |  | 11  30  8  12 | Early  3:18 hours before the start | 11  30  1 2  29 | Late  59 minutes after the start |

Testing of the solution: [https://judge.softuni.bg/Contests/Practice/Index/169#2](https://www.microsofttranslator.com/bv.aspx?from=bg&to=en&a=https%3A%2F%2Fjudge.softuni.bg%2FContests%2FPractice%2FIndex%2F169%232).