

# Computer-based midterm test

Create a C++ object-oriented solution for the problem given below. The solution must fulfill all of the following requirements:

- all the loops have to be based on the learnt algorithmic patterns,
- use a class to read the file,
- the input file can be opened once and you cannot store the data of multiple lines in the variables,
- the program has to be user-friendly,
- the program has to give correct results for any inputs, including the empty and the non-existing files.

The International Automobile Federation stores the lap-times of one Formula-1 season set on different race circuits. Each line of the file starts with the unique ID of the competitor (capital string without whitespaces). The line continues with the ID of the circuit (string without whitespaces), followed by the lap times (at least one) in milliseconds (integer). Data is separated by whitespaces or tabs. The file is ordered by the ID of the competitors. The structure of the input file is expected to be correct.

## Sample file:

```
HAM Eifel 92410 92165 92543 92153 88971
NOR Eifel 94983 94416 94419 93941
NOR Sakhir 89104 93198 91167 89521 93888
RUS Eifel 97697 95484 95346 94710 115084
RUS Sakhir 68922 98421 89830 92256 90133
```

**Accepted level** (for grade 3): Which competitor of which circuit has finished most of the laps in less than 90 seconds? Print out the ID of the competitor, the circuit, and the number of laps finished in less than 90 seconds.

**Excellent level** (for grade 5): Find the competitor who could finish at least one lap in less than 90 seconds in most of the circuits.

You do not have to create the solution for the Accepted level if you want to get grade 5, though, it is worthy to start with that one.