E-Lab

Web based system for solving and automatic assessment of programming problems

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Overview

- What is E-Lab?

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- Motivation

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- The problems

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- The solution

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- Conclusion

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- Using the power of version control systems
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- Supporting different types of problems in several programming languages (C, C++, Java)
- Designed for scalability and extension

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- Involves solving a lot of basic algorithmic examples (1/3 of the time)

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  - Students' feedback
  - Loosing focus from the actual programming

The solution

- Algorithmic type of problems

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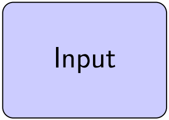
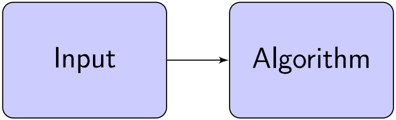

Input

The solution

- Algorithmic type of problems



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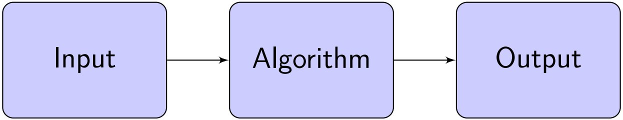


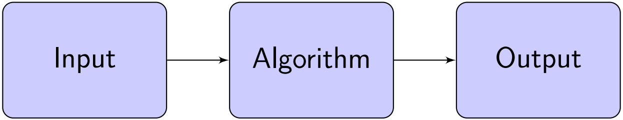
Input

Algorithm

Output

The solution

- Algorithmic type of problems



- Used in competitive programming systems

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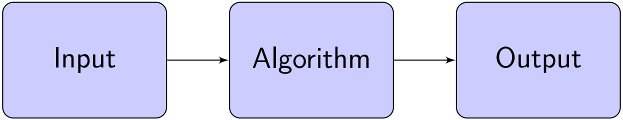

- Used in competitive programming systems
- Importance in programming to have working solution

E-Lab Goals

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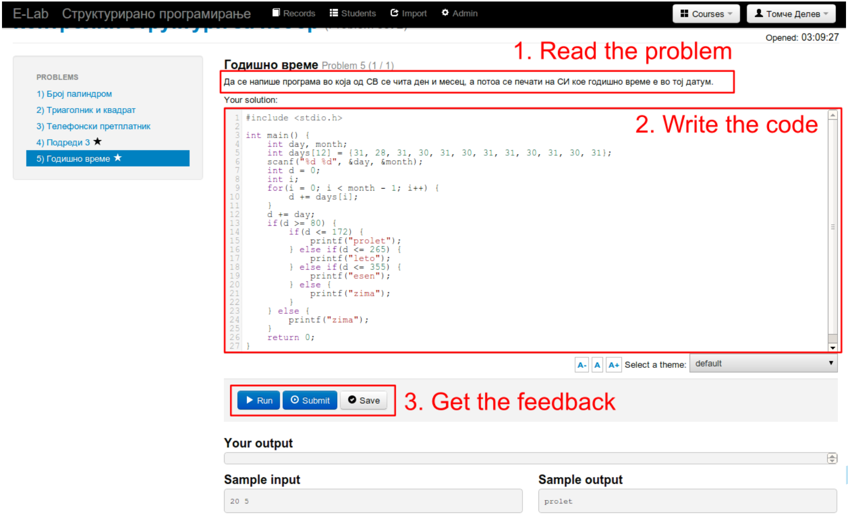
- Motivate the students with continuous feedback
- Shift the role of of the instructors from teachers and graders to motivator

Integrated problem view



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1. Read the problem

Годишно време Problem 5 (1 / 1)

Да се напише програма во која од СВ се чита ден и месец, а потоа се печати на СИ кое годишно време е во тој датум.

Your solution:

2. Write the code

```c
#include <stdio.h>

int main() {
    int day, month;
    int days[12] = {31, 28, 31, 30, 31, 30, 31, 31, 30, 31, 30, 31};
    scanf("%d %d", &day, &month);
    int d = 0;
    int i;
    for(i = 0; i < month - 1; i++) {
        d += days[i];
    }
    d += day;
    if(d >= 80) {
        if(d <= 172) {
            printf("prolet");
        } else if(d <= 265) {
            printf("leto");
        } else if(d <= 355) {
            printf("esen");
        } else {
            printf("zima");
        }
    } else {
        printf("zima");
    }
    return 0;
}
```

Select a theme: default

3. Get the feedback

Your output

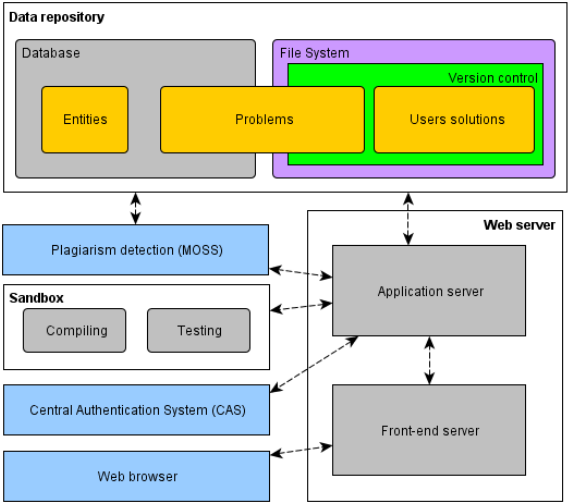
Sample input

```
20 5
```

Sample output

```
prolet
```

System architecture



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- Simplifying and improving the process of creating and managing programming problems
- Centralized repository (distributed)
- E-Lab is not the silver bullet

Questions

http://e-lab.finki.ukim.mk

Thank You

Questions?