The **Main goals** of the task are:

1. an overall architecture of app (**OOP** is required);

2. **threads** communication design;

3. how **code** is readable, code **style**;

4. supposed strategy of **error handling**;

5. **testing**.

Implementation: <u>only</u> C++ 98/11 and STL without any additional libraries.

1. Create an application which calculates **prime numbers** for intervals:

- Load intervals from specified xml-based file;

- For each interval start **standalone thread** for calculating prime numbers (threads calculations should be performed simultaneously);

- Each calculation thread must store every calculated prime number to **shared container** (list, vector, etc);

- Save **unique** prime numbers to xml-based file (primes tag).

2. Implement **unit tests** for the app using any unit test framework (GoogleMock, MS Test and etc.)

Example of source xml file:

```
<root>
<intervals>
  <interval>
    <low> 100 </low>
    <high> 200</high>
  </interval>
  <interval>
    <low> 500</low>
    <high> 888</high>
  </interval>
....
  </intervals>
</root>
```

Example of output (may be added to the source xml file):

```
<root>
<primes> 101 103 107 149 743  751… </primes>
</root>
```

* Test application has no commercial value and is needed only to understand candidate development skills.