

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: only 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;
 - 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.*