Lab 7.5.1 Exceptions: including information in exceptions

Objectives

Familiarize the student with:

- using exceptions in real programs;
- the simplification of exception throwing;
- throwing exceptions in constructors.

Scenario

IP header – imagine you have a class or struct (choose one) describing an IP header which holds (apart from other fields) two string fields that contain Source IP Address and Destination IP Address. Check these two fields and throw an exception in a constructor, and using a special check method, try to write one version of this code only. The condition of the check method is that both IP numbers are valid. Start with simple checks – the IP number must consist of four numbers in the 0-255 range, separated by a dot. Append appropriate information about which of the IP numbers is invalid.

Example input

```
212.112.212.11, 212.112.212.12
212.112.212.333, 212.112.212.33
```

Example output

```
Valid IP Header.
Invalid IP Header - Source IP Address is invalid.
```