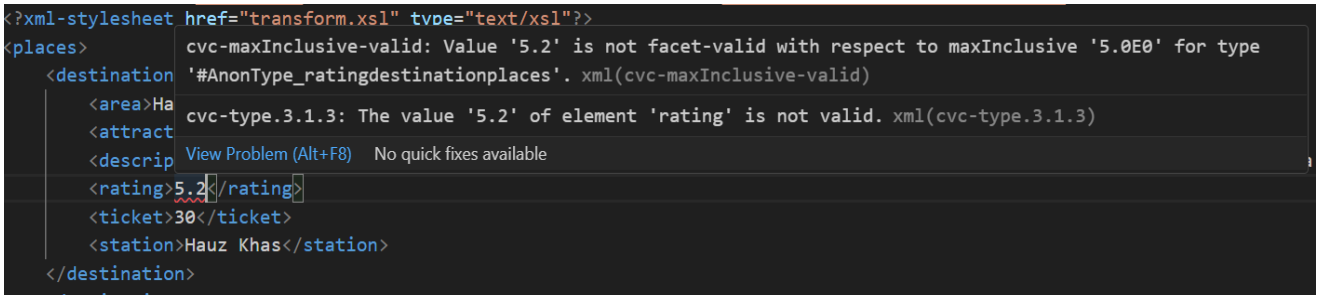
# Web Stack Development Lab 5 Summary Report

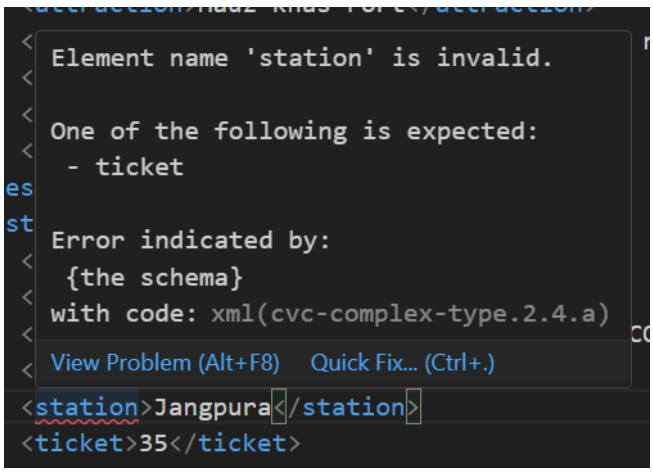
## Transformation and validation process:

1. The .xsd file was created. The necessary elements and datatypes were defined in this process. Restrictions for the elements were also defined. This is the validation process.
2. The .xml was created. This process involved entering data for the elements defined in the .xsd file.
   Error during validation: When the second <destination> tag was introduced in the XML Schema, an error occurred. This was due to the fact that max occurrence was not defined for the <destination> element in the XML Schema.
3. XML Stylesheet was created next which formats the XML data in a way that makes it easy to understand and read for the client.

## Testing process:

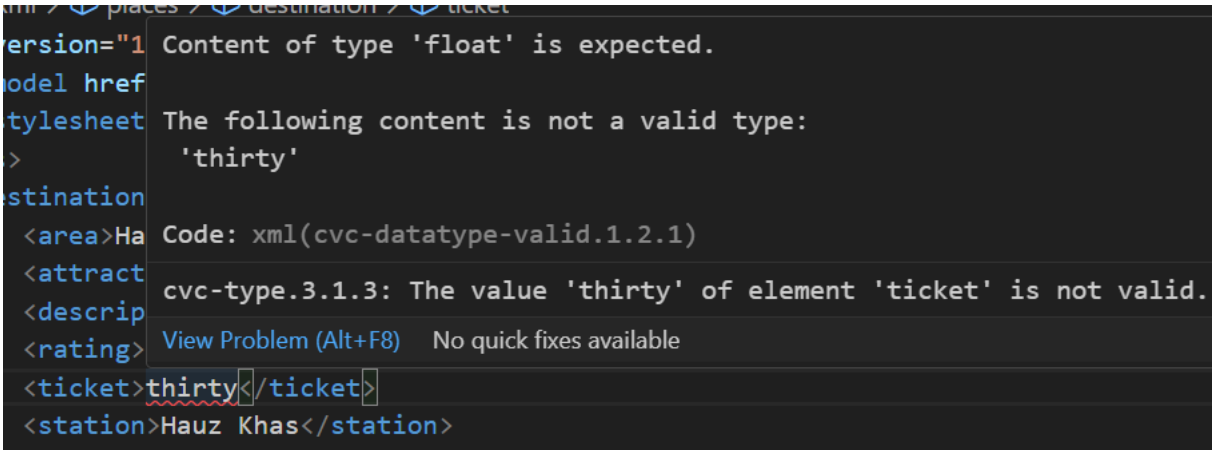
1. 


   Error occurred in the <rating> tag as only float values between 0.0 to 5.0 are allowed in XML data as defined in the XML Schema.

2. 

Error occurred as the tags do not follow the sequence described in the XML Schema in which <ticket> precedes <station>.

3.




Error occurred as the datatype defined for the <ticket> element in the XML Schema is float but a string was entered in the XML data.

Purpose of XSL Stylesheet and XSD Schema:

XSL Stylesheets are used to transform XML documents into HTML. This makes the XML data more readable and formats it in a way that is easy to understand for the client.

XML Schema describes the structure of XML data and validates the data. If the structure prescribed in the XML Schema is not followed in the XML, the XML data is considered 'invalid'.

In XML Schema, the XML namespace is defined to avoid conflict of element names. Elements and attributes are added with their necessary 'types' such as complexType or simpleType depending on whether the particular element has more elements under it (complexType) or not (simpleType). The data has an order and therefore, <xs:sequence> was used. Restriction bases are introduced for certain elements if they can only take up certain values as data.

XSL Stylesheets look similar to CSS as they format the data.

The XSLT stylesheet matches (/) character and uses xsl:value-of to extract and display the values of specific XML elements. The xsl:for-each loops over each <destination> in the XML document and the xsl:value-of reads the data for the selected element. This way a table with multiple rows for the same table header is created.