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## Lab 10

### Major Elements of WSDL:

#### Types:

Types are a way to define custom types of data, storing other types of data, either defined by the language (ex: string, double) or another custom defined type. For example, if you defined a point type that stored two doubles as x and y.

#### Messages:

Defines the types of information that port types use. It is defined with a part(s) that stores a name and a type.

#### Port Types:

Defines the functions that the web service provides. It defines an input message it expects, and the message it returns.

#### Bindings:

Bindings define how you can interact with the document. It defines the way you can interact by defining the SOAP protocol, usually HTTP. A binding also defines which port types to expose by defining operations within it.

### List two datatypes and two methods:

#### Datatypes:

- Metadata  
`<element name="name" nillable="true" type="xsd:string"/>`  
`<element name="value" nillable="true" type="xsd:string"/>`
- RealBoundary  
`<element name="max" type="xsd:double"/>`  
`<element name="min" type="xsd:double"/>`

#### Methods:

- getMetadata  
`<wsdl:input message="impl:getMetadataRequest" name="getMetadataRequest"/>`  
`<wsdl:output message="impl:getMetadataResponse" name="getMetadataResponse"/>`
- getStatus  
`<wsdl:input message="impl:getStatusRequest" name="getStatusRequest"/>`  
`<wsdl:output message="impl:getStatusResponse" name="getStatusResponse"/>`

How many methods within the web service?

There are 13 methods.

```
In [1]: from suds.client import Client

In [2]: client = Client("https://ws-shc.qc.dfo-mpo.gc.ca/predictions?wsdl")

In [3]: print('Number of methods: ',end='')
...: print(len(client.wsdl.services[0].ports[0].methods))
Number of methods: 13
```

Results from using the web service:

Times and Heights for High and Low Tides at North Head, 2021-04-06

13:07 0.90 (m)

19:21 5.90 (m)

Trying a method defined in example:

Using the getStatus method I can obtain the status of the connection/server.

```
In [1]: from suds.client import Client

In [2]: client = Client("https://ws-shc.qc.dfo-mpo.gc.ca/predictions?wsdl")

In [3]: status = client.service.getStatus()

In [4]: print(status)
(Status){
  message = "Ok"
  status = "ok"
}
```