

Consider the definitions (between <definitions>  
</definitions>) of step and task as well as of specialisation  
between pairs of analysis scenarios.

<definitions>

An analysis scenario is composed of steps and each step is  
accomplished through a series of tasks. You can think of a step as  
a macro-group of affine tasks.

Specialisation relationship between scenarios: indicates that a  
scenario adds several steps/tasks with respect to another  
scenario.

</definitions>

Query: suggest to me analysis scenarios that in their definition  
include the steps of the scenario delimited by

<scenario></scenario>

<scenario>

<AnalysisScenario id="AS3">

<Step id="1" name="features selection" supervisedBy="OEM">

<Task id="1" name="internal and external temperatures  
features selection with factor analysis" />

</Step>

<Step id="2" name="displacements prediction"  
supervisedBy="OEM">

<Task id="1" name="create dataset with internal  
temperatures, external temperatures, displacements" />

<Task id="2" name="train-test dataset split" />

<Task id="3" name="regression coefficients calculation  
with multiple linear regression analysis (MLRA)" />

<Task id="4" name="calculation of predicted displacements"  
/>

</Step>

<Step id="3" name="comparison of predicted vs real  
displacements" supervisedBy="OEM">

<Task id="1" name="calculation of pearson correlation" />

<Task id="2" name="calculation of mean root squared  
error" />

</Step>

</AnalysisScenario>

</scenario>

Print the steps between <steps></steps> and tasks between  
<tasks></tasks>.

Based on the definitions provided and the analysis scenarios in the uploaded files, the analysis scenarios that specialise the one delimited by <scenario></scenario> (AS3) according to the definition of "specialisation" relationship are:

AS1.xml

AS2.xml

Both AS1 and AS2 add steps and tasks to AS3.

AS1.xml:

```
<steps>
  <Step id="1" name="collection of measures"
supervisedBy="Client company">
    <tasks>
      <Task id="1" name="internal temperature sensors data
collection" />
      <Task id="2" name="external temperature sensors data
collection" />
      <Task id="3" name="Displacements comparators data
collection" />
      <Task id="4" name="Data shaping - internal
temperatures" />
      <Task id="5" name="Data shaping - external
temperatures" />
      <Task id="6" name="Data shaping - displacements" />
    </tasks>
  </Step>
  <Step id="2" name="interpolation of measures"
supervisedBy="OEM">
    <tasks>
      <Task id="1" name="Timestamp alignment" />
      <Task id="2" name="Linear interpolation - external
temperatures" />
      <Task id="3" name="Linear interpolation -
displacements" />
      <Task id="4" name="merge internal and external
temperatures datasets" />
    </tasks>
  </Step>
  <Step id="3" name="features selection" supervisedBy="OEM">
    <tasks>
      <Task id="1" name="internal and external temperatures
features selection with factor analysis" />
    </tasks>
  </Step>
  <Step id="4" name="displacements prediction"
supervisedBy="OEM">
    <tasks>
```

```

        <Task id="1" name="create dataset with internal
temperatures, external temperatures, displacements" />
        <Task id="2" name="train-test dataset split" />
        <Task id="3" name="regression coefficients calculation
with multiple linear regression analysis (MLRA)" />
        <Task id="4" name="calculation of predicted
displacements" />
    </tasks>
</Step>
<Step id="5" name="comparison of predicted vs real
displacements" supervisedBy="OEM">
    <tasks>
        <Task id="1" name="calculation of pearson correlation"
/>
        <Task id="2" name="calculation of mean root squared
error" />
    </tasks>
</Step>
</steps>

```

AS2.xml:

```

<steps>
    <Step id="1" name="collection of measures"
supervisedBy="Client company">
        <tasks>
            <Task id="1" name="internal temperature sensors data
collection" />
            <Task id="2" name="external temperature sensors data
collection" />
            <Task id="3" name="Displacements comparators data
collection" />
            <Task id="4" name="Data shaping - internal
temperatures" />
            <Task id="5" name="Data shaping - external
temperatures" />
            <Task id="6" name="Data shaping - displacements" />
        </tasks>
    </Step>
    <Step id="2" name="data anonymisation" supervisedBy="Client
company">
        <tasks>
            <Task id="1" name="remove references to plant
location" />
        </tasks>
    </Step>
    <Step id="3" name="interpolation of measures"
supervisedBy="OEM">

```

```

        <tasks>
            <Task id="1" name="Timestamp alignment" />
            <Task id="2" name="Linear interpolation - external
temperatures" />
            <Task id="3" name="Linear interpolation -
displacements" />
            <Task id="4" name="merge internal and external
temperatures datasets" />
        </tasks>
    </Step>
    <Step id="4" name="features selection" supervisedBy="OEM">
        <tasks>
            <Task id="1" name="internal and external temperatures
features selection with factor analysis" />
        </tasks>
    </Step>
    <Step id="5" name="displacements prediction"
supervisedBy="OEM">
        <tasks>
            <Task id="1" name="create dataset with internal
temperatures, external temperatures, displacements" />
            <Task id="2" name="train-test dataset split" />
            <Task id="3" name="regression coefficients calculation
with multiple linear regression analysis (MLRA)" />
            <Task id="4" name="calculation of predicted
displacements" />
        </tasks>
    </Step>
    <Step id="6" name="comparison of predicted vs real
displacements" supervisedBy="OEM">
        <tasks>
            <Task id="1" name="calculation of pearson correlation"
/>
            <Task id="2" name="calculation of mean root squared
error" />
        </tasks>
    </Step>
</steps>

```