

Synchronized, Wait, Notify, Join, Sleep

<join>, <notify>, <sleep>, <synchronized>, <wait>

These all should be familiar to Java programmers, and function in a similar manner. A few of these have already appeared in previous examples. Here is a fuller version of `parallel-block` which makes use of these; note also the `<define>` and `<call>` tasks.

Examples

```
<ogrescript>
  <define procedure="computeTP" ARG_x0="double" ARG_y0="double" RET_t="double" RET_p="double">
    <assign name="RET_t" double="$E{sin ( ${ARG_x0} ) - cos ( ${ARG_y0} ) }"/>
    <assign name="RET_p" double="$E{cos ( ${ARG_x0} ) - sin ( ${ARG_y0} ) }"/>
  </define>

  <declare name="t" double="$E{pi}"/>
  <declare name="p" double="$E{e}"/>
  <declare name="monitor" configured="true"><new-object/></declare>
  <declare name="flag" string="FREE"/>
  <sleep time="4000"/>

  <parallel-block idPrefix="compute" copies="10" join="true">
    <synchronized taskName="sync1-${pTaskId}" on="${monitor}">
      <while condition="$E{true}">
        <if>
          <equals first="${flag}" second="LOCKED"/>
          <wait on="${monitor}" timeout="5000"/>
          <else><break/></else>
        </if>
      </while>
      <assign name="flag" string="LOCKED"/>
    </synchronized>
    <call procedure="computeTP" ARG_x0="${t}" ARG_y0="${p}" RET_t="t" RET_p="p"/>
    <assign name="t-${pTaskId}" double="${t}" global="true"/>
    <echo message="t-${pTaskId} = ${t-${pTaskId}}"/>
    <synchronized taskName="sync2-${pTaskId}" on="${monitor}">
      <assign name="flag" string="FREE"/>
      <notify on="${monitor}" all="true"/>
    </synchronized>
  </parallel-block>
</ogrescript>
```