Variable inheritance

In the previous chapter, we saw how to define a *variable* for a *task*.
When all the tasks of the same *family* share the same variable value,
the value could be defined at the family level.
This is termed *variable inheritance*
In the examples below the *variable* could have been defined at the
level of the *suite*, achieving the same results.
Variables are inherited from the parent node.
If a variable is redefined lower in the tree, it is said to be overridden.
In this case, the new definition is the one being used.
It is possible to override the generated variables.
This is not recommended and you should understand all the consequences
if you decide to do so.

Text

```
# Definition of the suite test.
suite test
    edit ECF_INCLUDE "$HOME/course"    # replace '$HOME' with the path to your home directory
    edit ECF_HOME    "$HOME/course"
    family f1
        edit SLEEP 20
        task t1
        task t2
    endfamily
endsuite
```

Python

$HOME/course/test.py

```
import os
from ecflow import Defs,Suite,Family,Task,Edit

def create_family_f1():
    return Family("f1",
            Edit(SLEEP=20),
                Task("t1"),
                Task("t2"))

print("Creating suite definition")
home = os.path.join(os.getenv("HOME"), "course")
defs = Defs(
        Suite("test",
            Edit(ECF_INCLUDE=home,ECF_HOME=home),
            create_family_f1()))
print(defs)

print("Checking job creation: .ecf -> .job0")
print(defs.check_job_creation())

print("Saving definition to file 'test.def'")
defs.save_as_defs("test.def")
```

Quiz

Let us have a quiz. Consider the following suite:

```
suite test
   edit SLEEP 100
   family f1
      edit SLEEP 80
      task t1
      task t2
         edit SLEEP 9
      family g1
          edit SLEEP 89
          task x1
              edit SLEEP 10
          task x2
      endfamily
   endfamily
   family f2
      task t1
      task t2
          edit SLEEP 77
      family g2
          task x1
              edit SLEEP 12
          task x2
      endfamily
   endfamily
endsuite
```

Here is the value for SLEEP for the above suite. Make sure you understand this.

node	SLEEP
/test/f1/t1	80
/test/f1/t2	9
/test/f1/g1/x1	10
/test/f1/g1/x2	89
/test/f2/t1	100
/test/f2/t2	77
/test/f2/g2/x1	12
/test/f2/g2/x2	100

What to do

1. Do the modifications
2. Replace the *suite*
   python: python3 test.py
            python3 client.py
   text: ecflow_client --suspend=/test; ecflow_client --replace=/test test.def
3. Watch in *ecflow_ui* .