

## Lab 13-2 Creating a Cellview

**Objective: To use SKILL functions to create a cellview containing several rectangles.**

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In this lab, you write a SKILL function to do these tasks:

- Open a cellview.
- Add rectangles to the cellview.
- Save the cellview.

### Requirements

Make the *TrRectangles* function accept these four arguments:

- *libName*, *cellName* and *viewName* specify the design.
- *rectList* is a list of rectangle descriptions, such as  
( "metal1" 0:0 .5:.5 )

Make the *TrRectangles* function do the following tasks:

- Open the cellview.
- Add rectangles to the specified design with the corresponding layer name and bounding box.
- Return a list of the "*rect*" database objects.

You can assume that the layer names and bounding boxes are valid.

### Getting Started

Before you write the SKILL function, try the following steps to familiarize yourself with the actions your function performs.

1. In the CIW, enter

```
newCV = dbOpenCellViewByType( "master" "new" "layout"
    "maskLayout" "w" )
```

*What does the newCV variable now contain?*

2. In the CIW, enter

```
newRect = dbCreateRect( newCV "metal1" list( 0:0 .5:.5 ) )
```

*What does the newRect variable now contain?*

3. In the CIW, enter

```
dbSave( newCV )
dbClose( newCV )
```

4. Use the *geOpen* function to open the *Cells new layout*.

*Are you satisfied with what you see?*

### Writing Your Function

1. Write the *TrRectangles* function based on the requirements.

### Testing Your Solution

1. In the CIW, enter

```
geOpen(
    ?lib "master"
    ?cell "new"
    ?view "layout" )
```

2. Delete all the shapes in the design. In the CIW, enter

```
geSelectAll()
foreach( dbObject geGetSelSet()
    dbDeleteObject( dbObject))
```

3. In the CIW, enter

```
TrRectangles( "master" "new" "layout"  
  list(  
    list( "metall1" 0:0 1.0:1.5 )  
    list( "poly1" 1:1 2:3 )) )
```

⇒ Check your work against the solution on the next page.

## Sample Solution

The `~/SKILL/DataModels/Solutions/Rectangles.il` file contains the solution.

```
procedure( TrRectangles( libName cellName viewName rectList )
  let( ( cv )
    cv = dbOpenCellViewByType( libName cellName viewName
      "maskLayout" "w" )
    when( cv
      foreach( mapcar rectDescription rectList
        dbCreateRect(
          cv
          car( rectDescription )
          cdr( rectDescription )
        )
      ) ; foreach
    ) ; when
  ) ; let
) ; procedure
```

## Lab Summary

In this lab, you wrote a function that adds several rectangles to a cellview using the `dbCreateRect` function.

