

```

function GET( $i, j, z$ )
    if  $tile[i, j, z] \neq nil$  then
        return  $tile[i, j, z]$ 
    else
         $tile[i, j, z] \leftarrow \text{RENDER}(i, j, z)$ 
        return  $tile[i, j, z]$ 
    end if
end function

```

```

function PUT( $basedata$ )
     $tiles \leftarrow \text{AFFECTED-BY}(basedata)$ 
    for all  $tile \in tiles$  do
         $\text{INVALIDATE}(tile)$ 
    end for
     $\text{STORE}(basedata)$ 
end function

```