GlobalToLocal Obtain local coordinates of global point

#include <Quickdraw.h> **Quickdraw**

```
void        GlobalToLocal(thePoint);
Point       *thePoint ;     global Point; receives local coordinates
```

GlobalToLocal converts a point from global (screen) coordinates to values expressed in coordinates of the current GrafPort. It is used to obtain the local address of a mouse-down event and as a step in converting between coordinates of two different grafPorts.

thePoint is the address of a 4-byte Point structure, expressed in global (screen) coordinates. Upon return, it will contain the coordinates of that same position, expressed in the coordinate system of the current GrafPort.

Returns: none

Notes: The specified Point is converted, in place. Upon return, it is the same physical location, expressed in global coordinates.

For instance, mouse-down events are reported in global coordinates, but TextEdit and the Control Manager functions expect local (window-relative) coordinates. Thus, a typical sequence may include:

```
EventRecord    myEvent;
ControlHandle  myCtl;
short          ctlCode;

GetNextEvent( everyEvent, &myEvent );
if ( myEvent.what ) == mouseDown {
    GlobalToLocal( &myEvent.where );      /* get local equivalent */
    ctlCode=FindControl( myEvent.where, myWindow, &myCtl );
    if ( ctlCode == inThumb )
        /*. . . etc. . . */
}
```

This function is also used as an intermediate step in converting between coordinates of two different grafPorts (e.g., windows). For instance, to convert the position of rectangle *theRect* from the coordinates of *windowA* to the coordinates of *windowB* :

```
SetPort( windowA );
LocalToGlobal( & topLeft( theRect ) );
LocalToGlobal( & botRight( theRect ) );

SetPort( windowB );
GlobalToLocal( & topLeft( theRect ) );
GlobalToLocal( & botRight( theRect ) );
```

To convert between the coordinates of regions and polygons, calculate the

difference between the coordinate systems and use **OffsetRect**, **OffsetRgn**, and **OffsetPoly**. See **LocalToGlobal** for an example.