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/*-----*
* File Name: AccessFittingFunctionDirectly.c *
* Creation: ER, 01/17/05 *
* Purpose: Programming Example *
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* *
* Modification Log: *
*-----*/

```

```
#include <Origin.h>
```

```

////////////////////////////////////
// This example shows how to access built-in NLSF fitting functions directly
// from OC to generate y values, without having to use the LabTalk NLSF object.
// Note that this does not work for user-defined functions.
//

```

```
void access fitting function directly()
```

```

{
    // Create new worksheet
    Worksheet wks;
    wks.Create();
    // Declare x, y datasets and check validity
    Dataset dsX(wks, 0);
    Dataset dsY(wks, 1);
    if( !dsX || !dsY ) return;

    // Fill x dataset with desired x values
    // Here we fill with values from 1.0 to 10.0 in steps of 0.1
    dsX.Data(1.0, 10.0, 0.1);

    // Set the size of the y dataset to be same as the x dataset
    int iSize = dsX.GetSize();
    dsY.SetSize(iSize);

    // We will now use the Gauss function to generate the y values
    //
    // There are two ways to do this:
    // Method 1:
    // Set up an array of parameters for the Gauss function
    // Gauss function has 4 parameters
    double dPar[4];
    dPar[0] = 10;          // y-offset
    dPar[1] = 5.5;        // xc
    dPar[2] = 3;          // w
    dPar[3] = 100;       // A
    // Generate y values
    for(int ii = 0; ii < iSize; ii++)
        dsY[ii] = nlfGauss(dsX[ii], dPar, 4);
    //
    // Method 2:
    // Directly pass parameters as part of function call:
    // This time let us use the GaussMod function
    // Note that GaussMod has 5 parameters
    for(ii = 0; ii < iSize; ii++)
        dsY[ii] = nlfGaussMod(dsX[ii], 5, 6.5, 3, 100, 5);

    // Note:
    // For either method, you just need to use the appropriate name
    // of the built-in fitting function:
    // nlfFunctionName or nlfFunctionName
    // where FunctionName" is the name of the fitting function in
    // the FDF file, which typically is same as the name of the
    // FDF disk file.
}

```

```

////////////////////////////////////

```