**Library Module-Shared Library**

1. **A computer screen with text on it

   Description automatically generated**

Libapplication.c: The main program file.

cal\_utility.c : The source file with function definitions.

cal\_utility.h : The header file. This header file contains the prototypes of the functions defined in cal\_utility.c

1. To create a shared library from cal\_utility.c and cal\_utility.h files,

Steps to follow:

* Create the header file(cal\_utility.h): This file should contain function prototype for the functions you want to expose in the shared library.
* Create the source file(cal\_utility.c): This file should contain the definitions of the functions declared in header file.
* Compile the source code into a shared library. Open the terminal in the directory containing cal\_utility.c and cal\_utility.h, then run the following command:

gcc -c -fPIC cal\_utility.c -o cal\_utility.o

* Link the object file into a shared library:

gcc -shared -o libcal\_utility.so cal\_utility.o

libcal\_utility.so : the name of the shared library.

-shared: Tells the compiler to produce a shared object file.

* Create main.c
* Compile main.c with the shared library

gcc -o main main.c -L. -lcal\_utility

-L : Specifies the directory where the shared library is located.

-lcal\_utility: links the libcal\_utility.so library.

* Run the Application: To run the application, you may need to set the LD\_LIBRARY\_PATH to include the directory where libcal\_utility.so is located.

./main