Linux driver assignments – 3 -- kernel module related

1. use hello.c and hello1.c to generate external kernel modules – load and test them – understand their dependencies – check if they work, as per their dependency rules – use the Makefile provided with the samples

2. once the above basic testing is done, do the following :
   As per what is given in chapter 17 of LKD/3, do the following :
   a) add our module related source files to the kernel source directory
      - you must create appropriate directory with kernel source directory
      - you must create appropriate Makefile(s) and edit certain existing Makefile(s)
      - you must create appropriate Kconfig(s) and edit certain existing Kconfig(s)
      - verify that the appropriate menu items/options are available via “make menuconfig”
   b) configure your module a module, compile the kernel and test it
   c) configure your module as static code, compile the kernel and test it.

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Hints for this assignment :

a) read chapter 17 of LKD / 3
b) read ch4 of embedded linux primer – read section 4.3 only – other sections may not make sense currently
c) read chapter 8 of Embedded Linux primer – section 8.1.4 may be relevant your work
d) in addition, do not use their example code – let us use hello.c and hello1.c modules that we have
e) do not blindly copy what is given in the references – understand – make a plan – create / modify appropriate files as needed !!!

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Hints for this assignment :

f) the process of doing this assignment can be summarized as below using a traditional kernel developers' style:

```
while(1){
        step1 : add your source file(s) to the kernel source directory;
                make changes to relevant Kconfig(s) and Makefile(s)
        step2 : use make menuconfig to check whether your changes
                are updated and visible in the kernel configuration menu
                items
        step3 : select appropriate settings for your menu-item(module or
                static)
        step4 : recompile the kernel without errors – reboot
        step5 : load the module using modprobe or check if module
                is loaded, if it is statically built into the kernel
        step6 : if above steps worked properly, break ; otherwise,
                continue
}
```