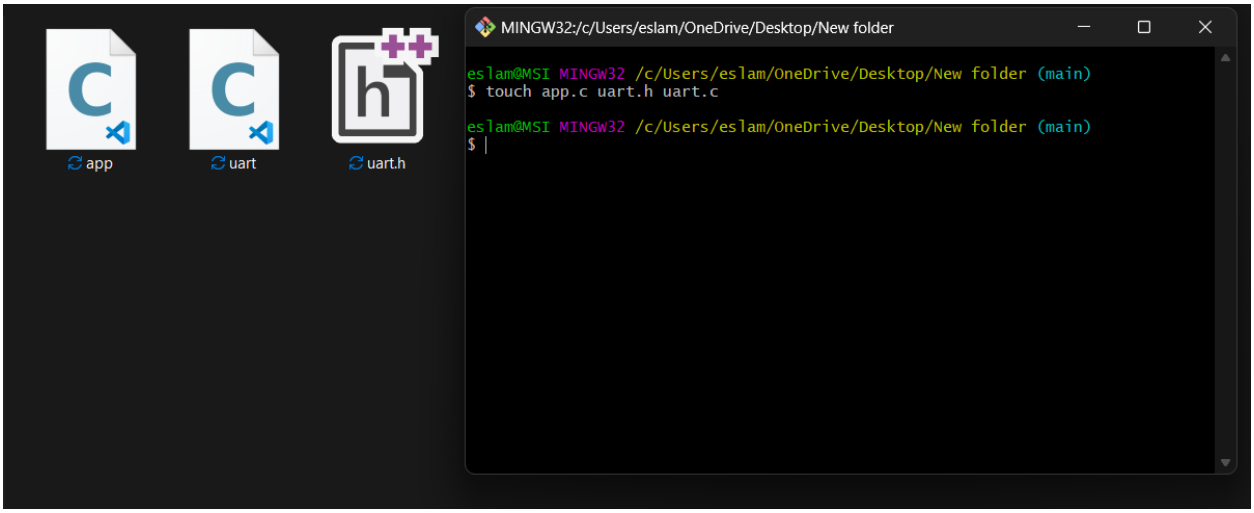
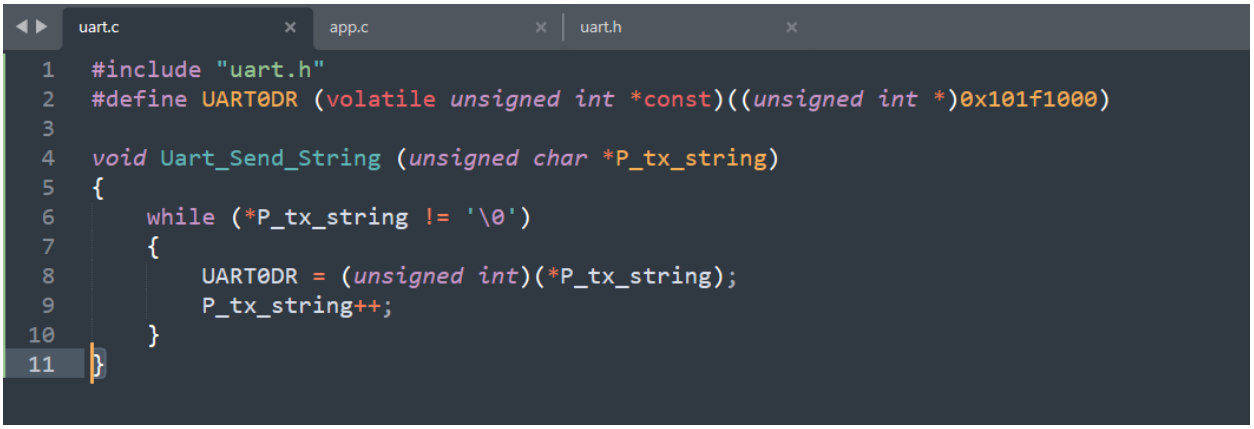
REPORT FOR LAB OF UNIT 3 LESSON 2

Name : Eslam Mostafa Mohamed

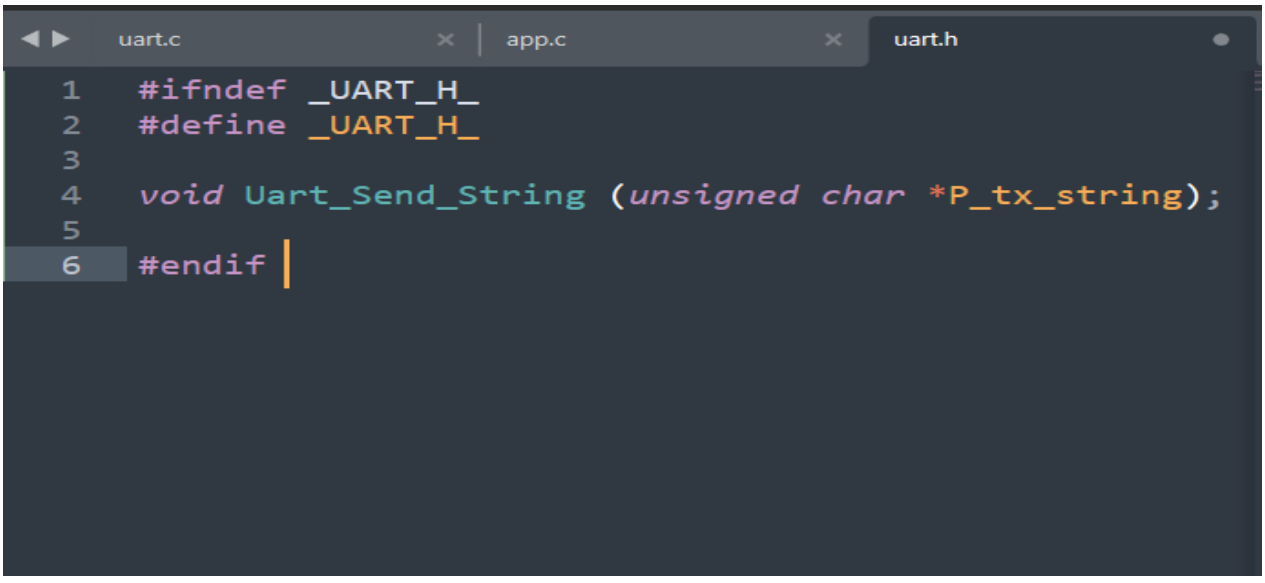
Using command at git Bash to create files :



Uart.c file :



Uart.h file :



App.c file :

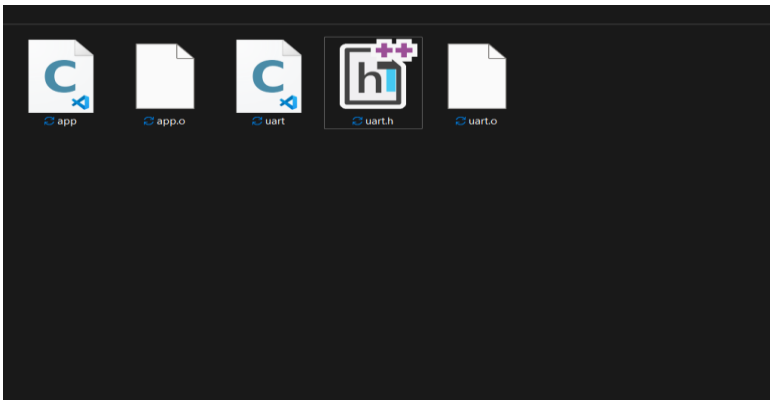
uart.c | app.c | uart.h

```c
#include "uart.h"

unsigned char string_buffer[100]="learn-in-depth:<Eslam>";
unsigned char const string_buffer_2[100]="to create a rodata section";

void main (void)
{
    Uart_Send_String (string_buffer);
}
```

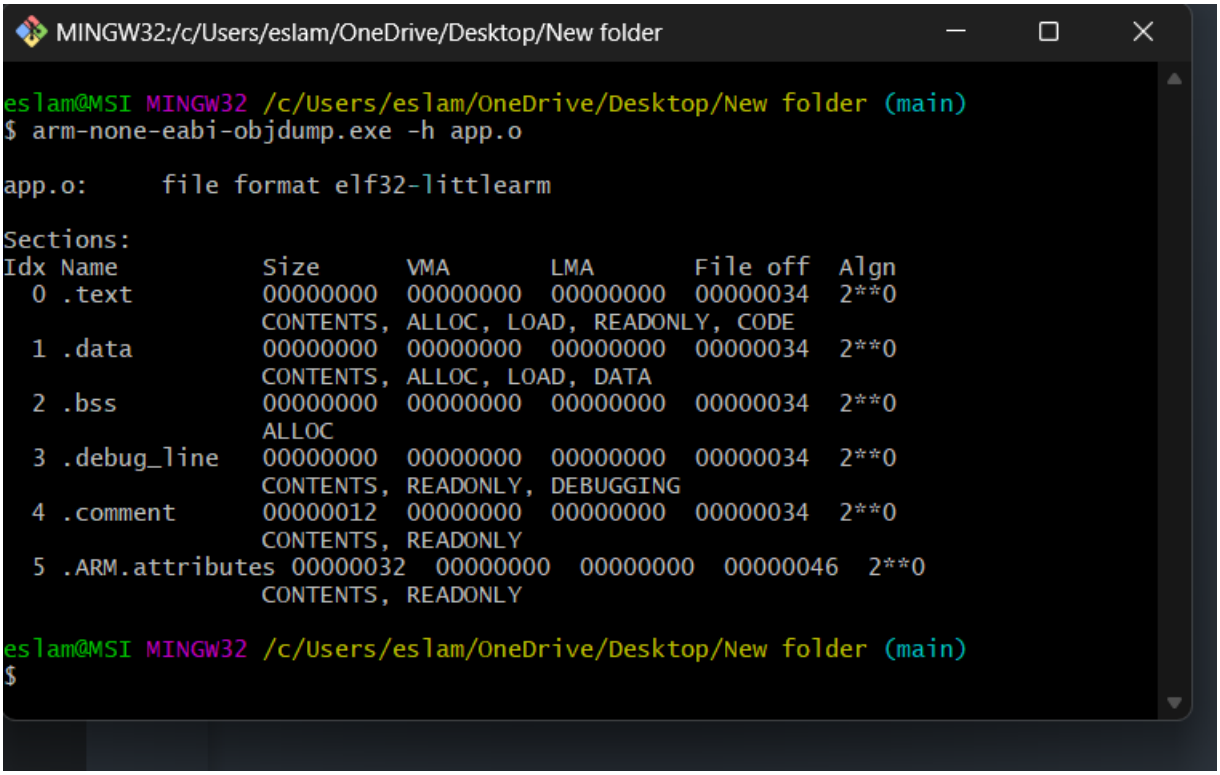
Creating object files with debugging Information :

MINGW32:/c/Users/eslam/OneDrive/Desktop/New folder

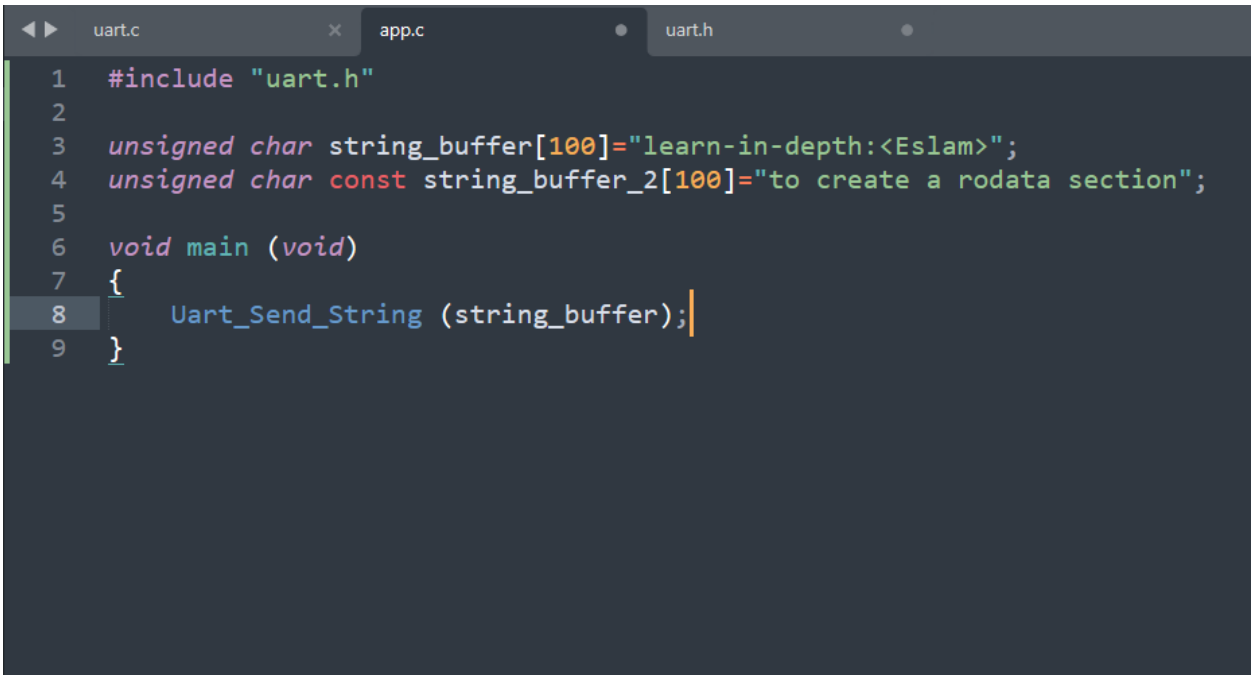
```
eslam@MSI MINGW32 /c/Users/eslam/OneDrive/Desktop/New folder (main)
$ arm-none-eabi-gcc.exe -c -g -I . -mcpu=arm926ej-s app.c -o app.o

eslam@MSI MINGW32 /c/Users/eslam/OneDrive/Desktop/New folder (main)
$ arm-none-eabi-gcc.exe -c -g -I . -mcpu=arm926ej-s uart.c -o uart.o

eslam@MSI MINGW32 /c/Users/eslam/OneDrive/Desktop/New folder (main)
$ ls
1.png  2.png  3.png  4.png  app.c  app.o  uart.c  uart.h  uart.o

eslam@MSI MINGW32 /c/Users/eslam/OneDrive/Desktop/New folder (main)
$
```



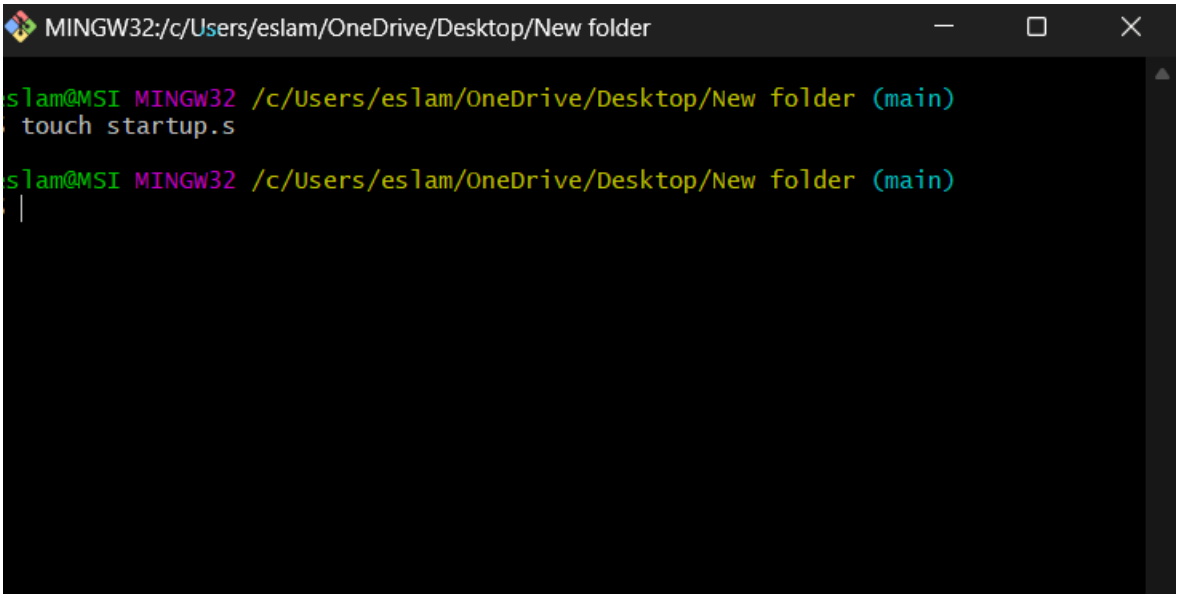
To watch obj file section :

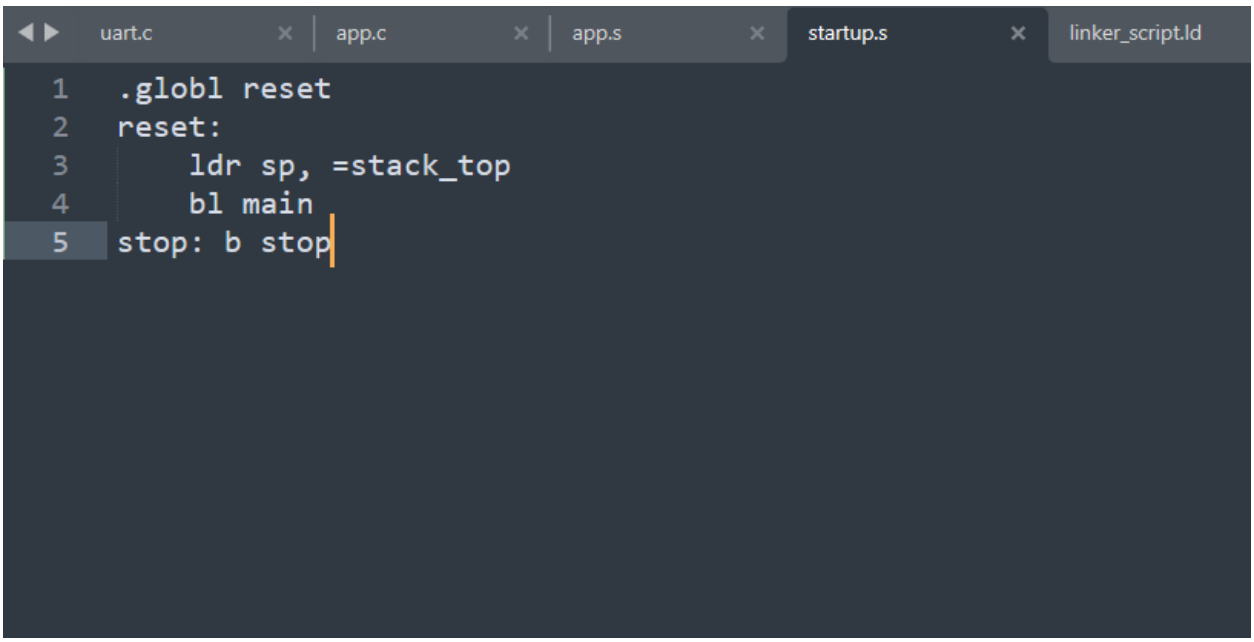


Create .rodata section :

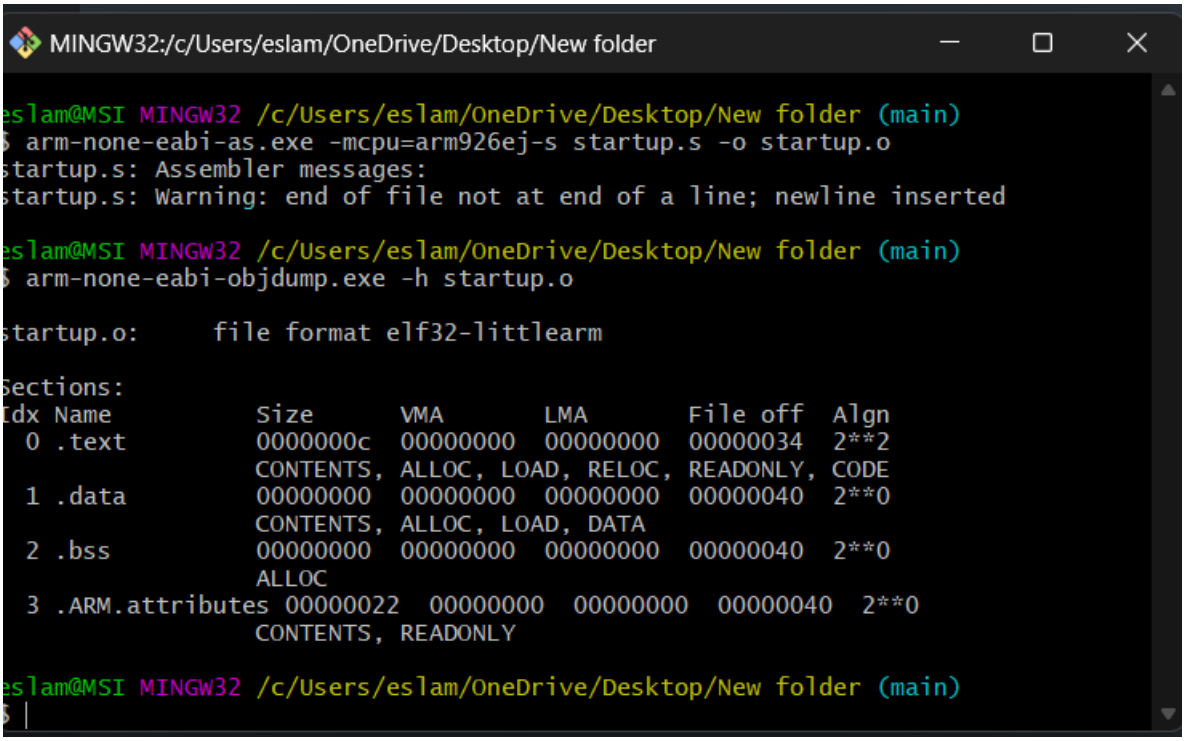


Creating startup file :



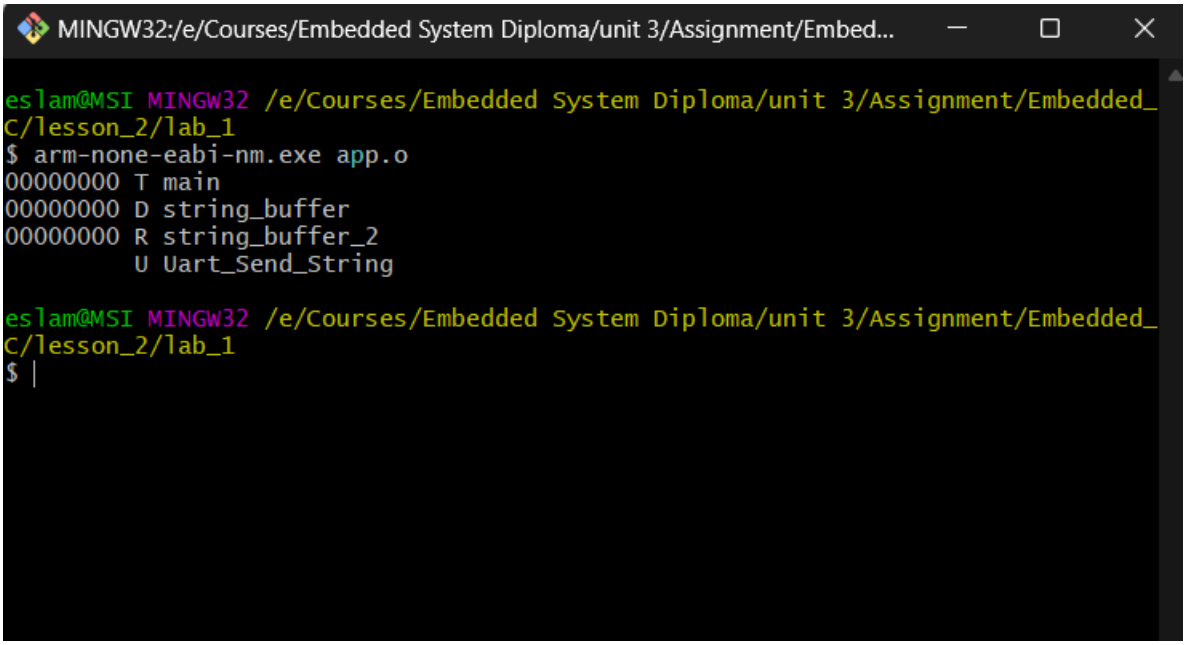


Creating .o file and watch object file sections of startup file :

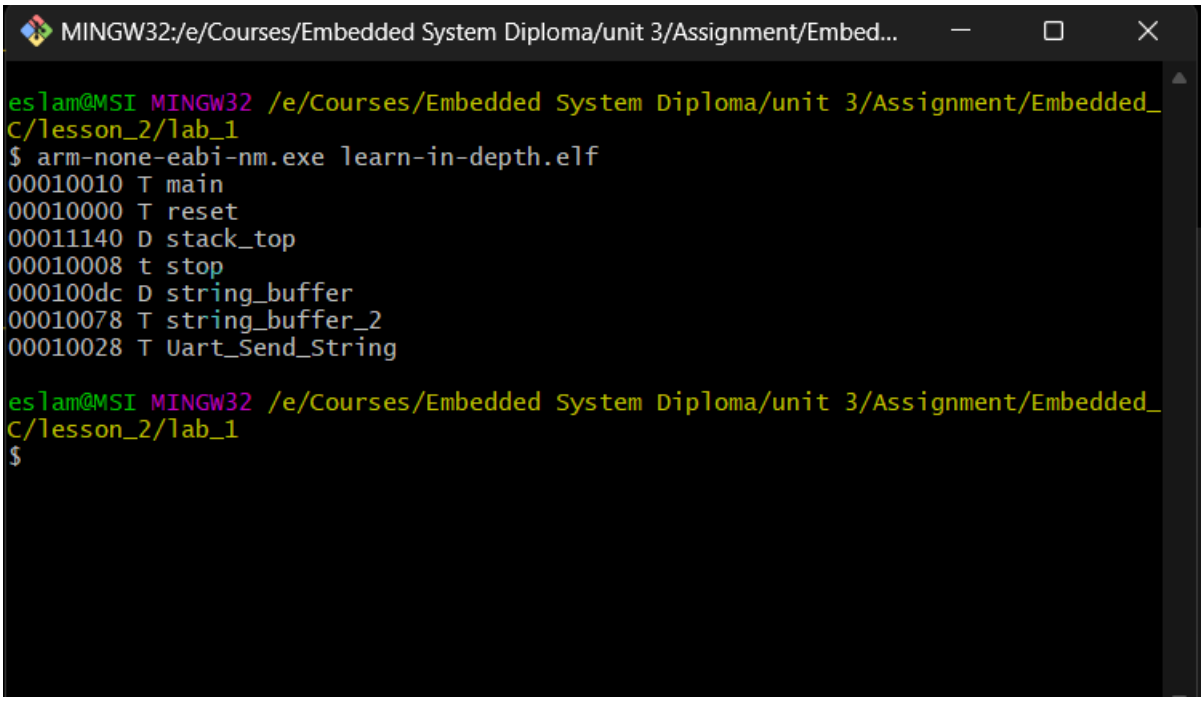


Creating linker script file :

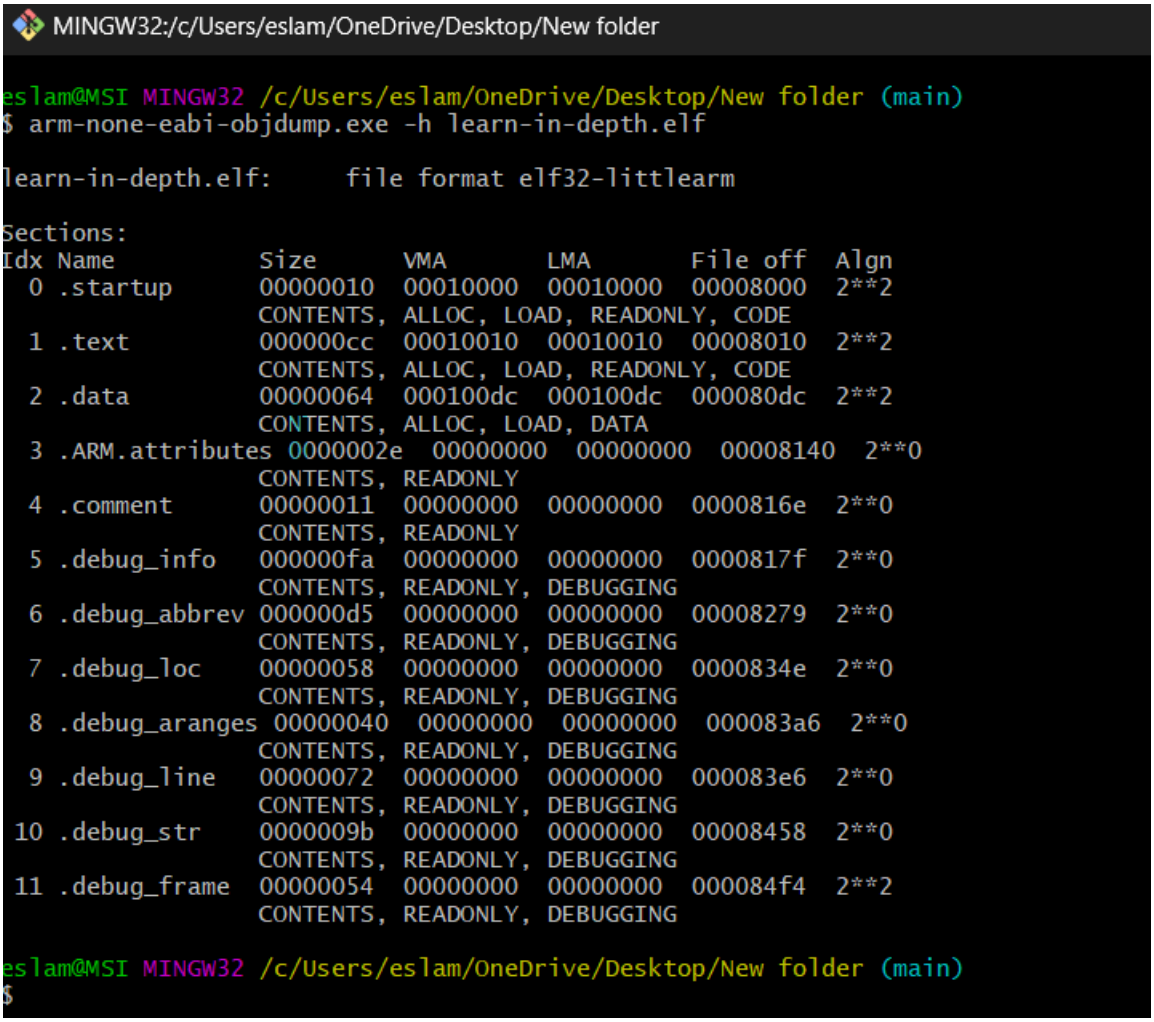
Watching symbols of app.o and uart.o before linking with relocatable addresses :



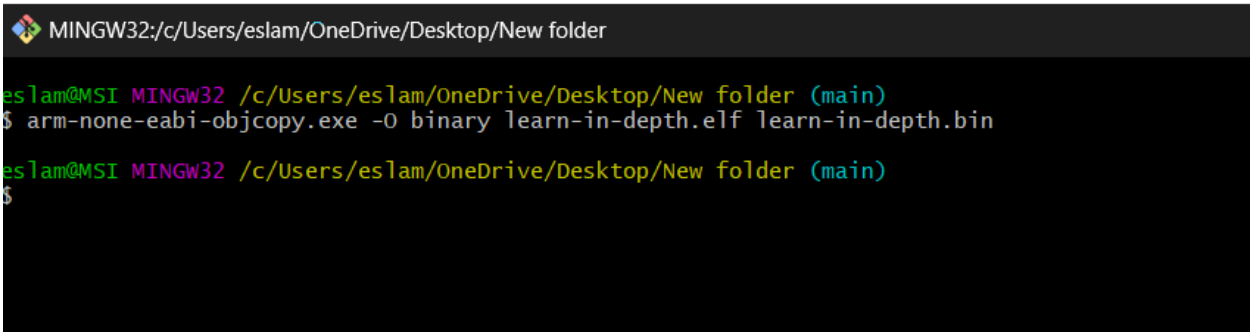
watching symbols in learn-in-depth.elf File :



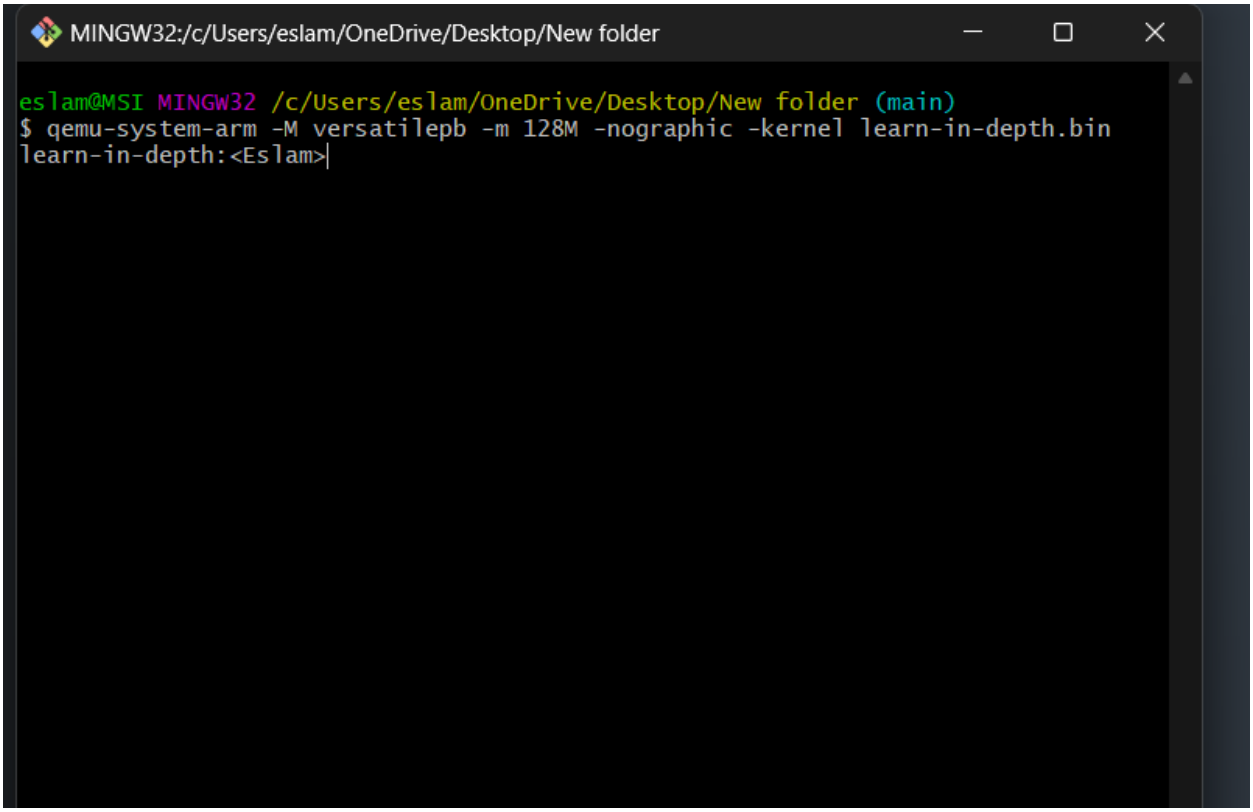
Watching sections in learn-in-depth.elf file with debugging information :



generating binary file from learn-in-depth.elf File



Output :


MINGW32:/c/Users/eslam/OneDrive/Desktop/New folder
eslam@MSI MINGW32 /c/Users/eslam/OneDrive/Desktop/New folder (main)
$ qemu-system-arm -M versatilepb -m 128M -nographic -kernel learn-in-depth.bin
learn-in-depth:<Eslam>