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HIND RECTIFIERS LTD	DATE : 15.05.2021

Method to Import and Execute the SMPS Code

The steps to import and execute the monorails code are as follows-
1) Open Code Composer Studio by double clicking on it.
2) Select the Appropriate workspace.
3) Click on Launch.
   (Avoid using the same workspace for different projects as this might sometimes lead to spurious linkage of systems header and assembly files.)
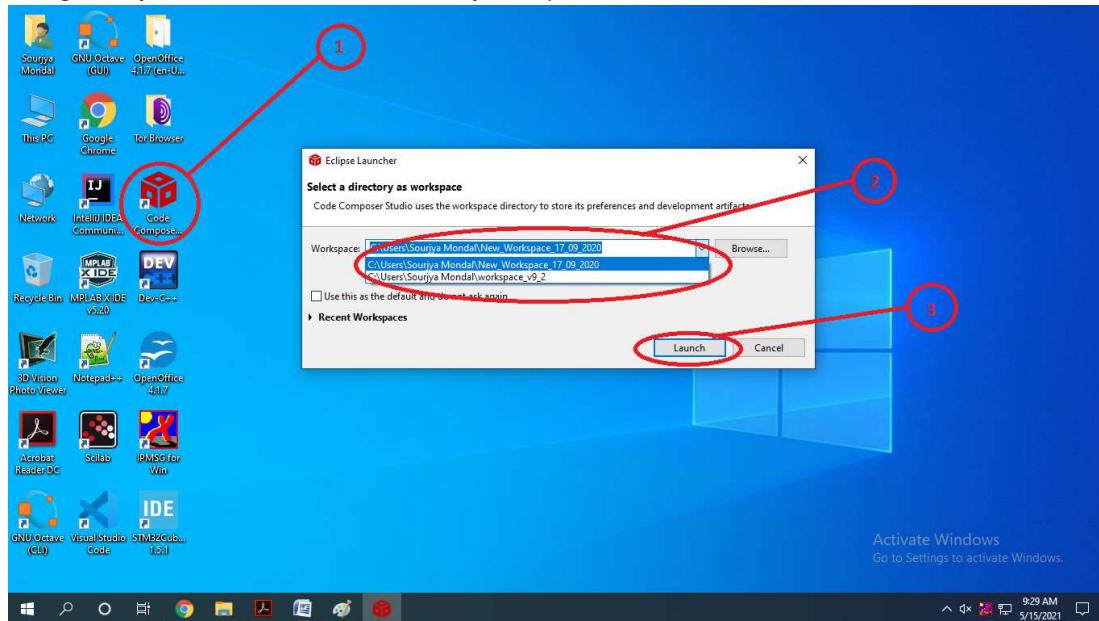
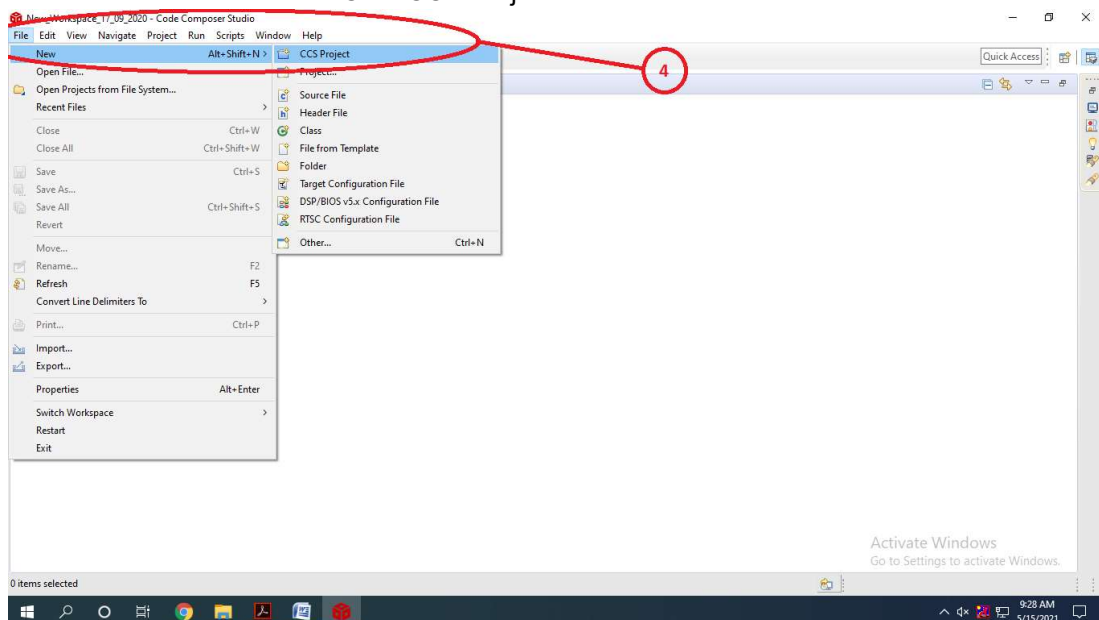

Fig.01

4) Select File -> Select New -> Click CCS Project

Fig.02

Report By	Sourjya Mondal	Doc. no.	
Checked By			Page 1 of 11

5) In the field called Target, select "2837xS Delfino" from the drop-down box.
6) Select the option of "TMS320F28377S" from the drop-down box of the adjacent field.
7) In the field called Project name, give an appropriate name to the project.
8) In the field called Linker Command File, select "28377S_RAM_lnk.cmd" to load the program directly into the RAM of the DSP.
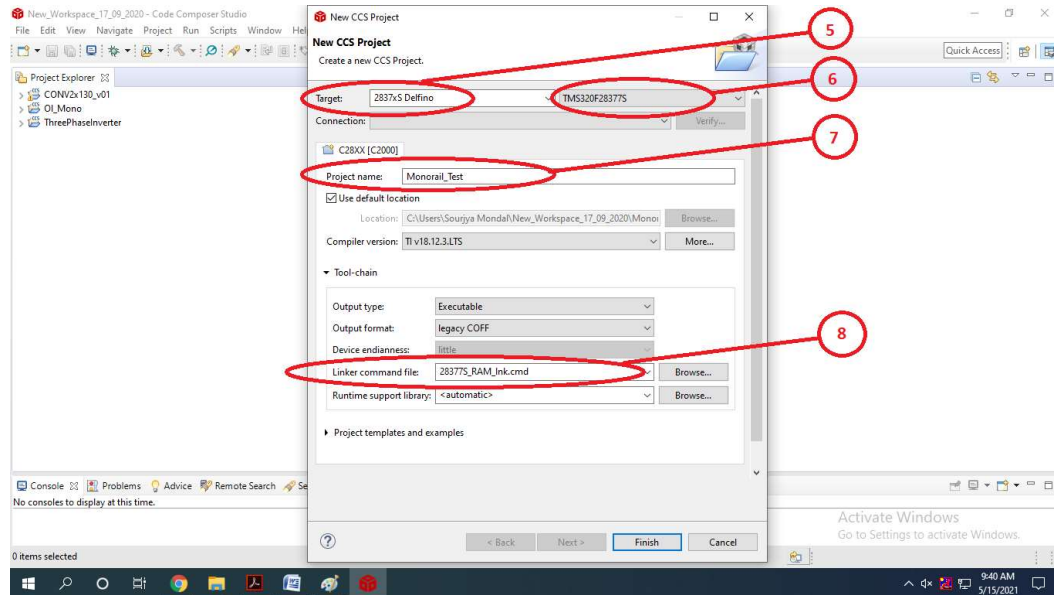

Fig.03

9) In the drop-down box called "Project templates and examples", select "Empty Project" to create a project without any additional Source Codes and Header Files.
10) Click on Finish.
    (This will create a project with only the header and assembly files required for programming the TMS320F28377S Delfino DSP.
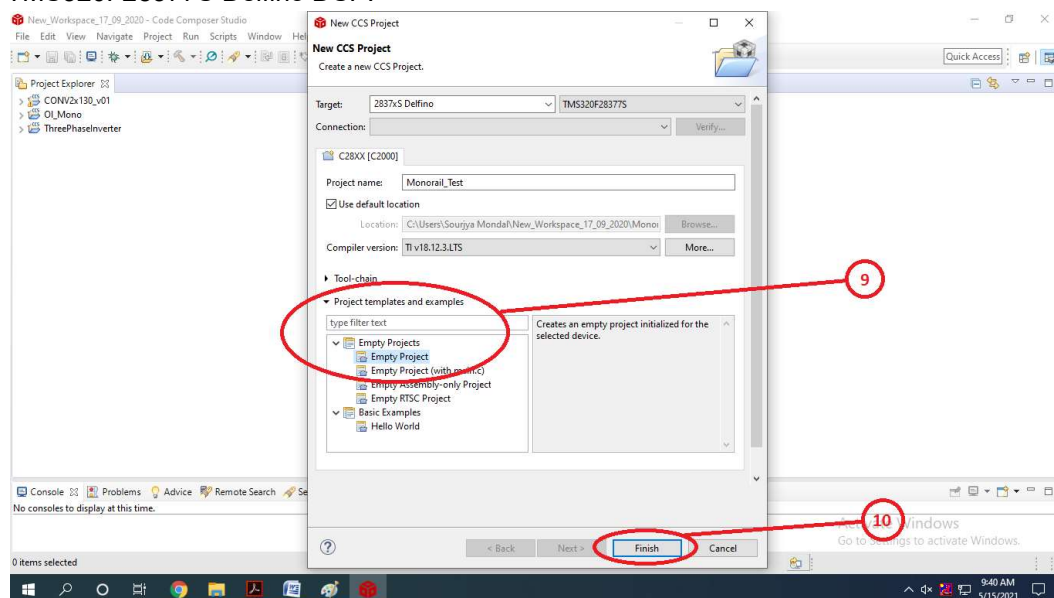

Fig.04

11) Right Click on this newly created project and select Properties.
   (Alternatively you can Select the project and press ALT+ENTER.)
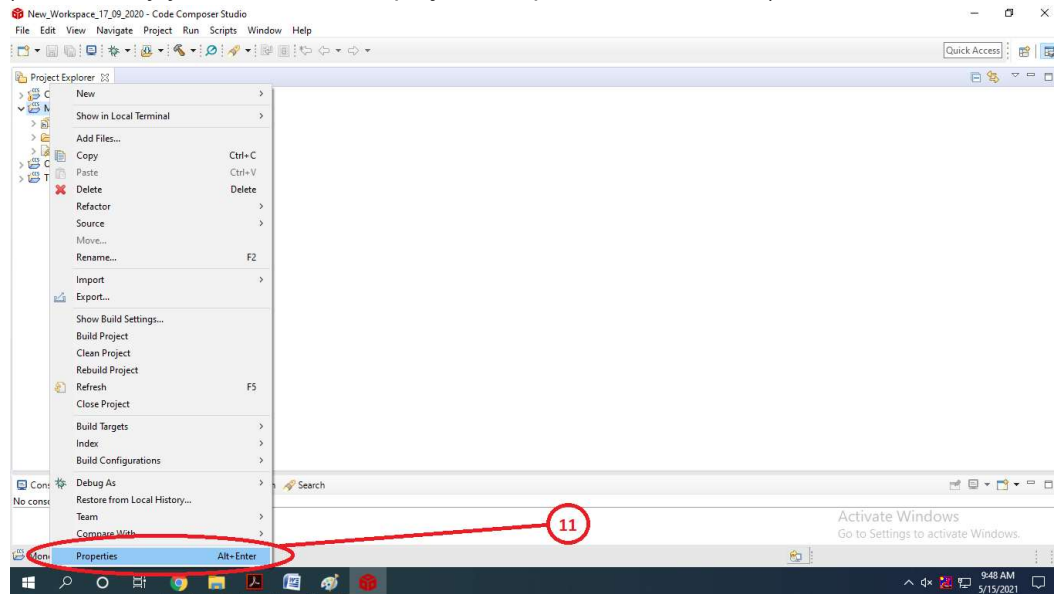

Fig.05

12) Select "General" tab from the menu.
13) In the field called Connection, select "Texas Instruments XDS 100 v2 USB Debugger" or "Texas Instruments XDS 100 v3 USB Debugger" depending upon the version of the USB Debugger used.
14) Click on "Verify" to establish connection between the USB Debugger and the TMS320F28377S DSP.
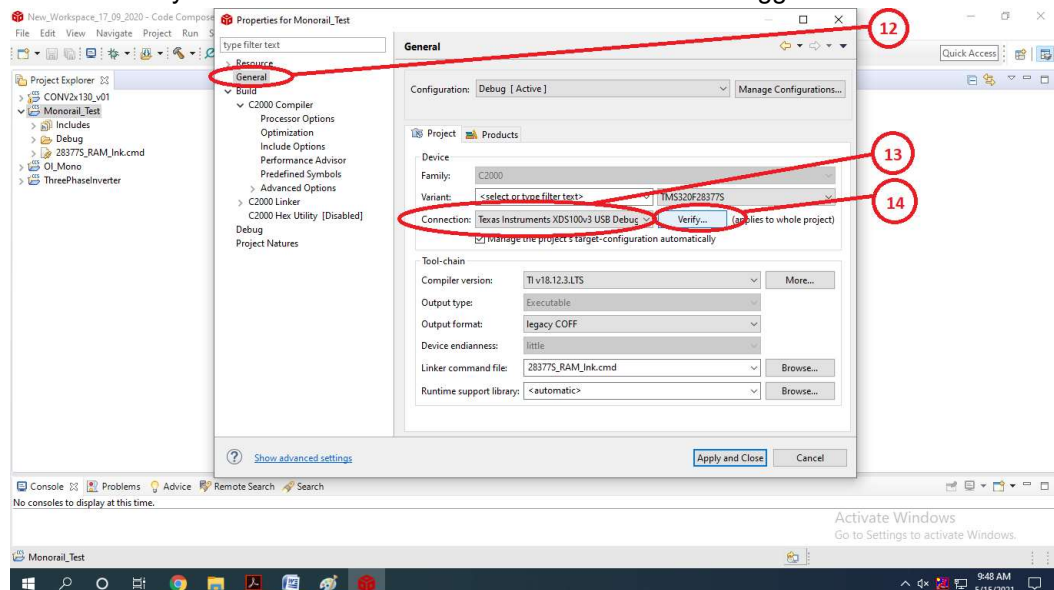

Fig.06

![Hirect logo]	
HIND RECTIFIERS LTD	DATE : 15.05.2021

15) Select Build -> C2000 Compiler -> Include Options from the Index.
16) Click on the "Add File" symbol. (This symbol looks like a ruled paper with a green colored plus sign to the left side).
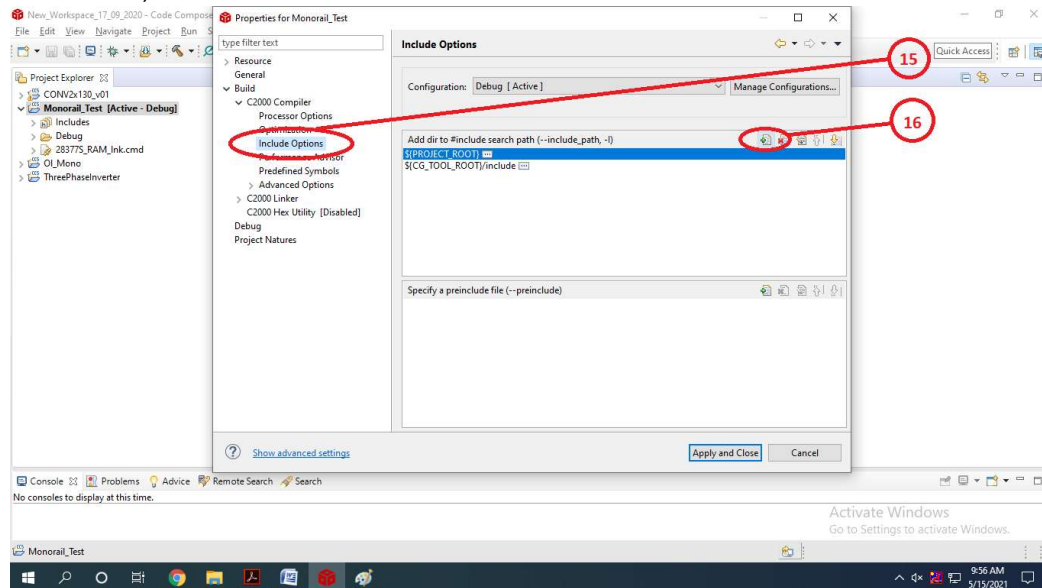

Fig.07

17) Click on Browse.
18) Locate and select common's "include" folder.
Location is as follows:-
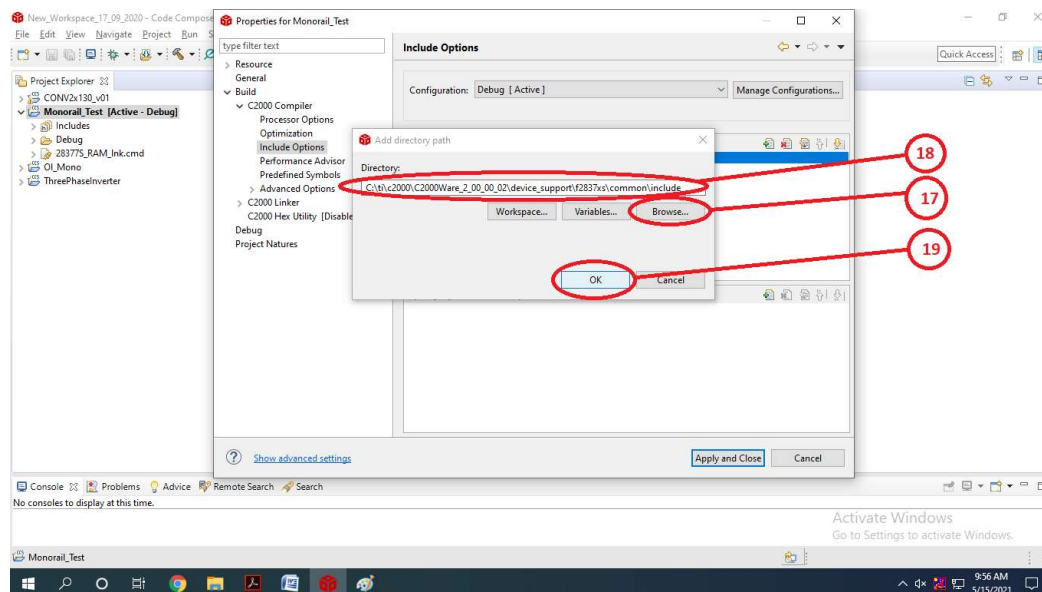C:\ti\c2000\C2000Ware_2_00_00_02\device_support\f2837xs\common
19) Click on OK.

Fig.08

Report By	Sourjya Mondal	Doc. no.	
Checked By			Page 4 of 11

HIND RECTIFIERS LTD	DATE : 15.05.2021

20) Repeat Steps 16 to 19 to add header's "include" folder.
Location is as follows:-
C:\ti\c2000\C2000Ware_2_00_00_02\device_support\f2837xs\headers

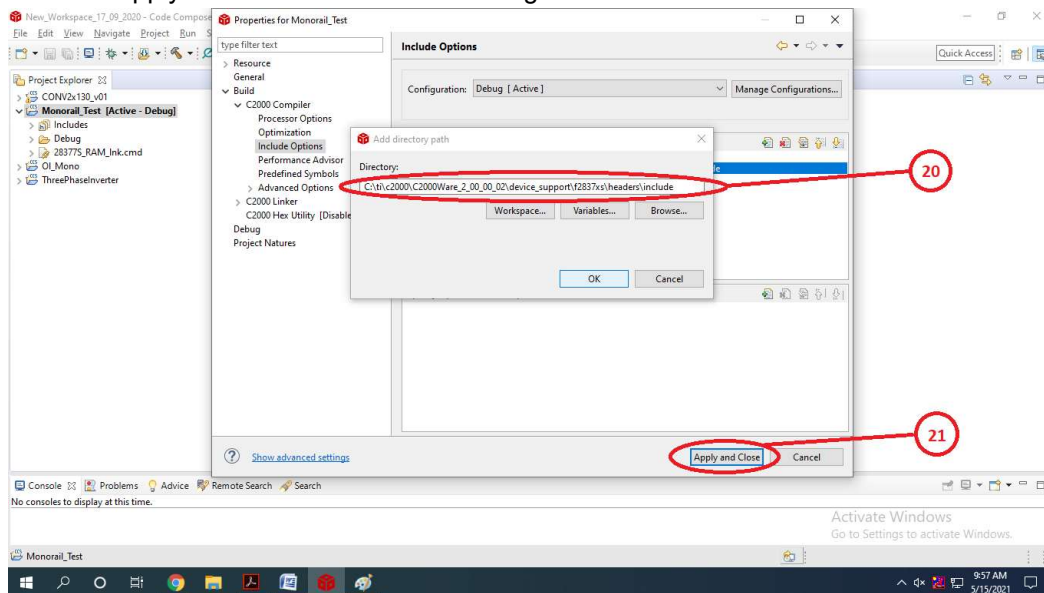21) Click on "Apply and Close" to save this configuration.

Fig.09
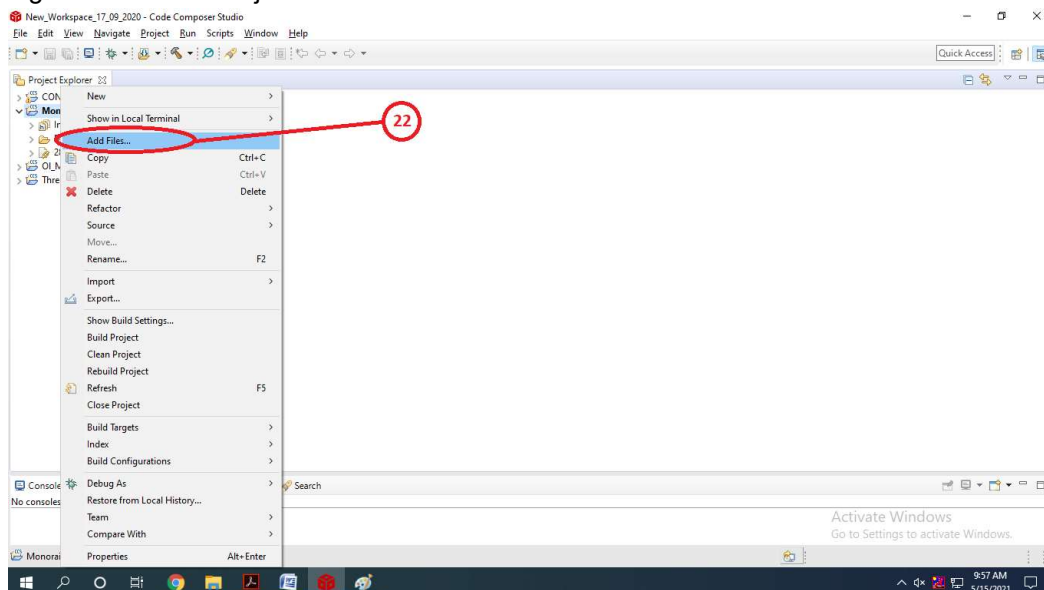
22) Right click on the Project and Select "Add Files".

Fig.10

HIND RECTIFIERS LTD	DATE : 15.05.2021

23) Browse, locate and select the file called "F2837xS_GlobalVariableDefs.c" from the source folder of the header folder.
Typically it's address is:-
C:\ti\c2000\C2000Ware_2_00_00_02\device_support\f2837xs\headers\source
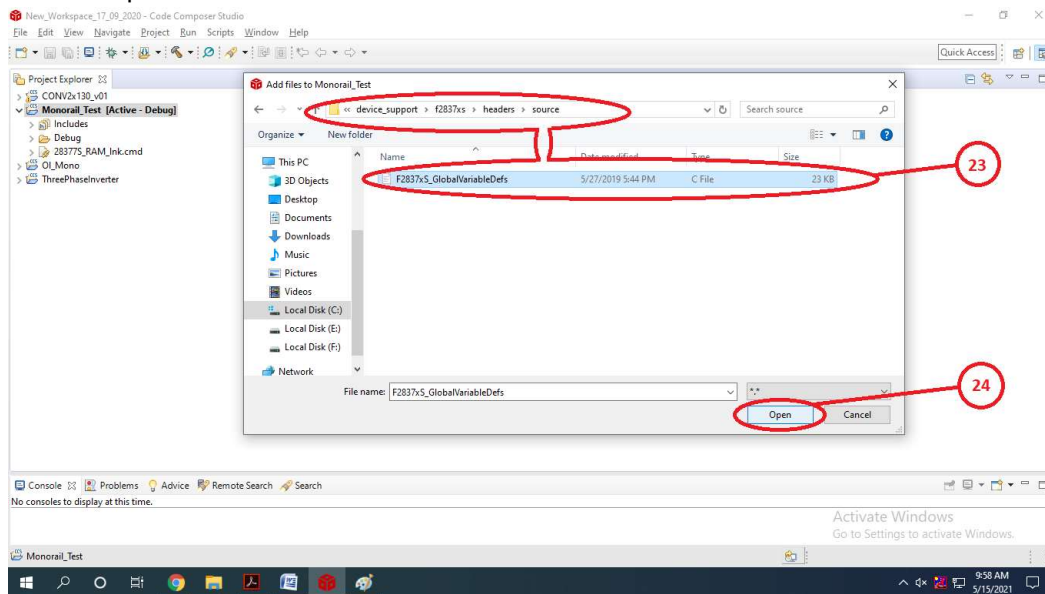
24) Click on Open.

Fig.11

25) Under the section called "Select how files should be imported into the project", select Copy Files.
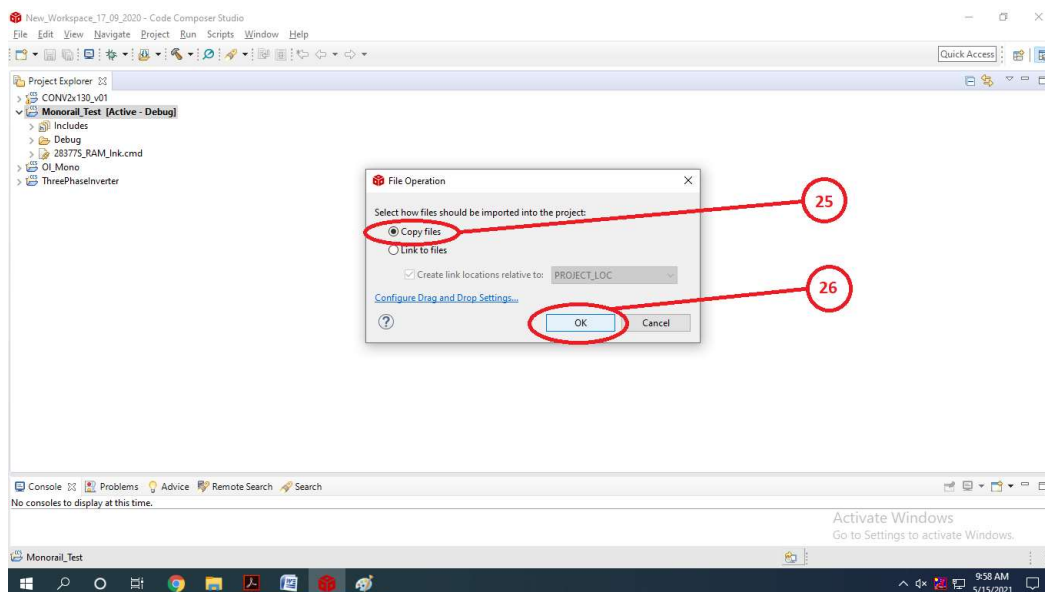
26) Click on OK.

Fig.12

Report By	Sourjya Mondal	Doc. no.	
Checked By			Page 6 of 11

![Hirect logo]	
HIND RECTIFIERS LTD	DATE : 15.05.2021

27) Repeat Step 22. Browse, locate and select the file called "F2837xS_Headers_nonBIOS.cmd" from cmd folder of the header folder.
Typically its location is:-
C:\ti\c2000\C2000Ware_2_00_00_02\device_support\f2837xs\headers\cmd
28) Click on Open.
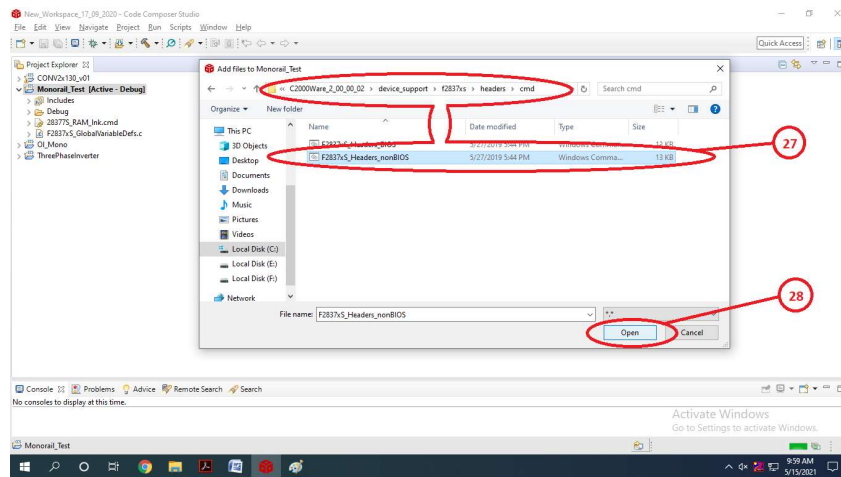29) Repeat Steps 25 to 26.

Fig.13

30) Repeat Step 22. Browse, locate and select the files called "F2837xS_Adc.c", "F2837xS_CodeStartBranch.asm", "F2837xS_CpuTimers.c", "F2837xS_DefaultISR.c", "F2837xS_EPwm.c", "F2837xS_Gpio.c", "F2837xS_PieCtrl.c", "F2837xS_PieVect.c", "F2837xS_struct.c", "F2837xS_SysCtrl.c" and "F2837xS_usDelay.asm" from source folder of the common folder.
Typically the location of these files are as follows:-
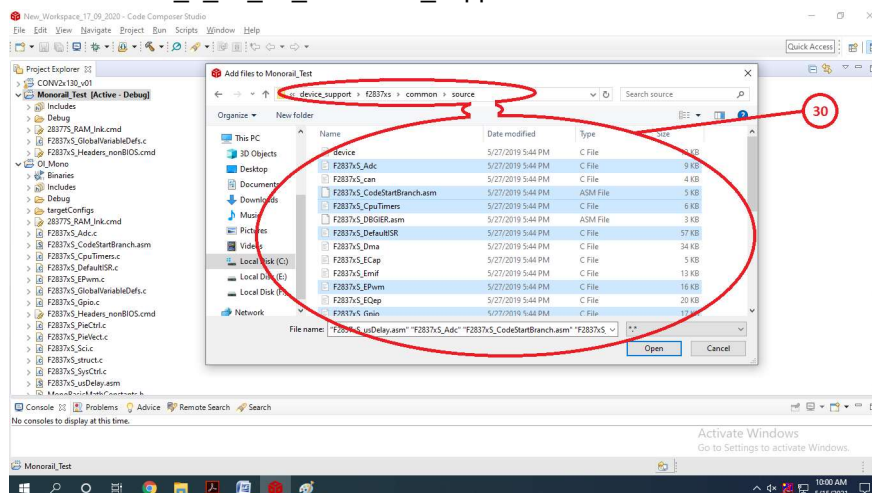C:\ti\c2000\C2000Ware_2_00_00_02\device_support\f2837xs\common\source

Fig.14

Report By	Sourjya Mondal	Doc. no.	
Checked By			Page 7 of 11

Hirect (logo)	
HIND RECTIFIERS LTD	DATE : 15.05.2021

31) Click on Open.
32) Repeat Steps 25 to 26.
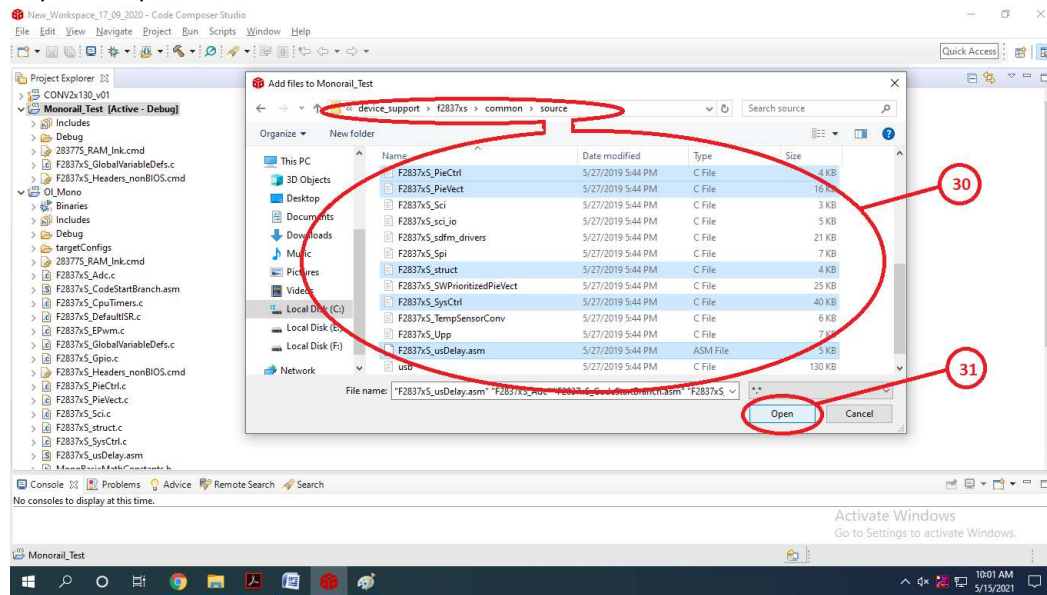
Fig.15

33) Right click on the Project, select "New" and then select "Folder".

Fig.16

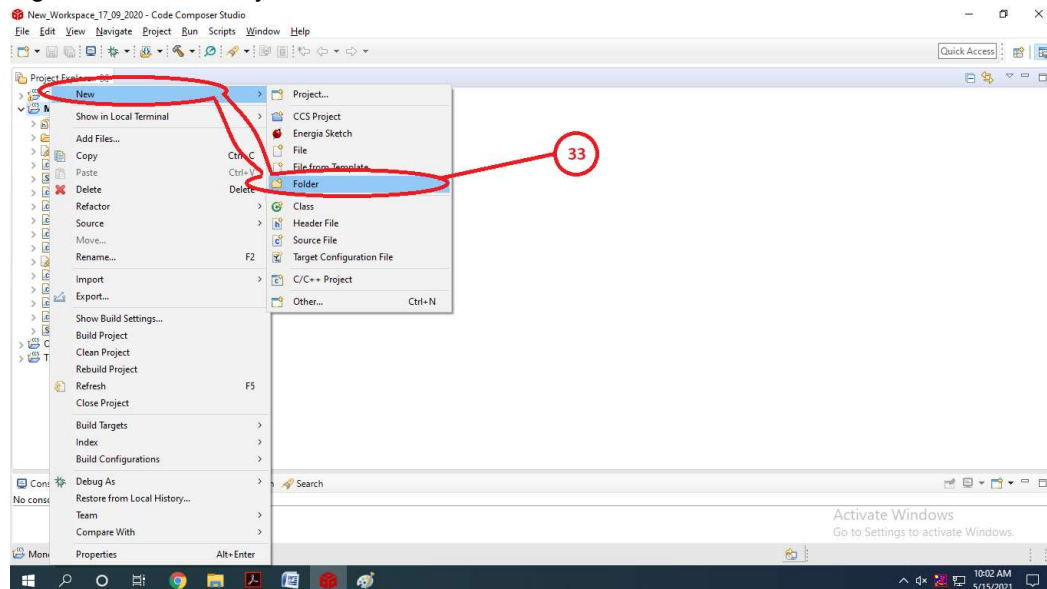| Report By	Sourjya Mondal	Doc. no.	
Checked By			Page 8 of 11

34) Give an appropriate name to this folder. This folder will be used to save the User's Source Codes.
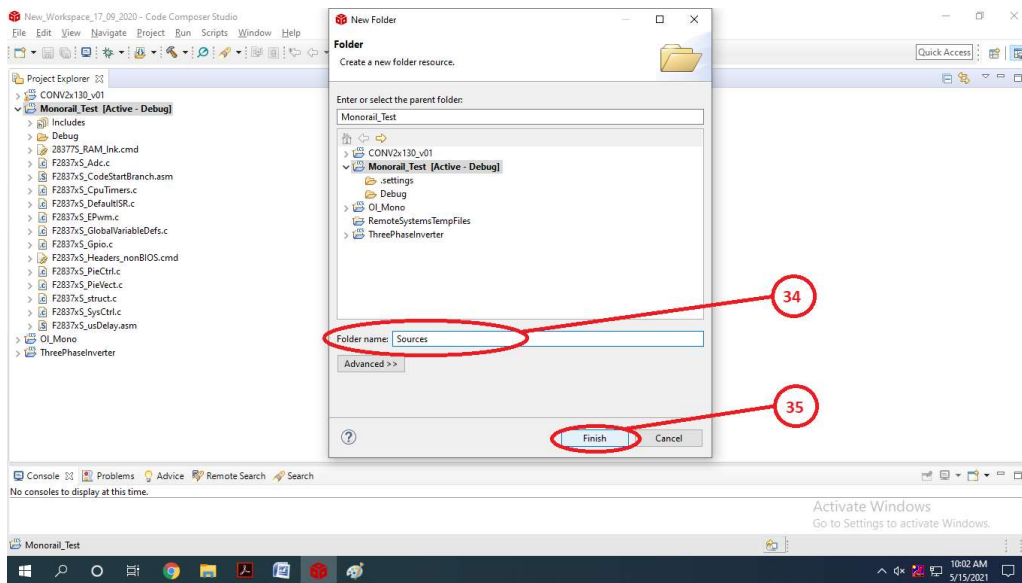35) Click on Finish.

Fig.17

36) Repeat step 22. Browse, locate and select the files called "ADC_DAC.c", "Inverter.c", "Main.c". "PSFB.c" and "Trigonometric.c" from the "Source_Code" folder of the given handover folder.
Typically the location is:-
E:\Monorail Code\Source_Codes
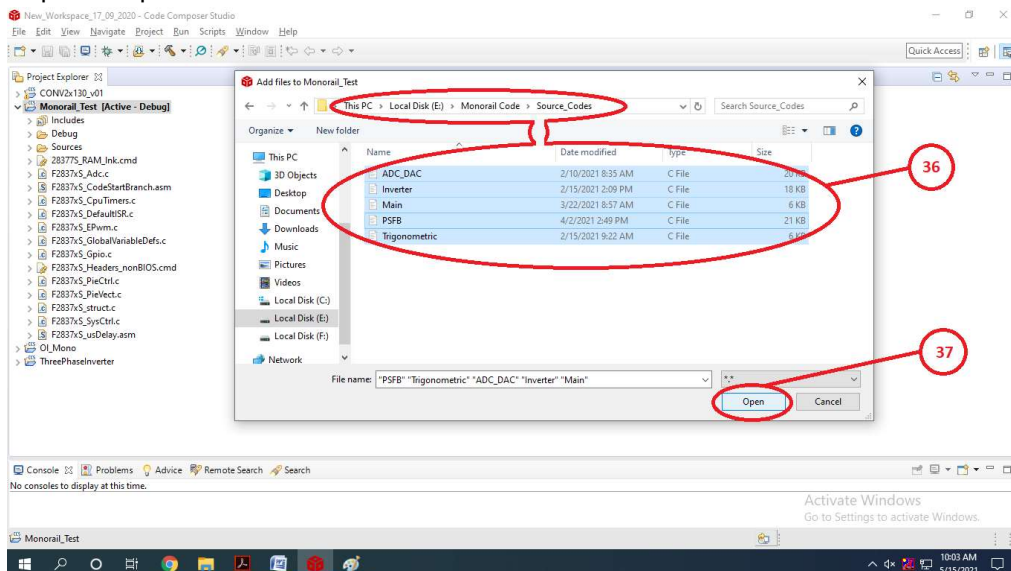37) Click on Open.
38) Repeat Steps 25 to 26.

Fig.18

Report By	Sourjya Mondal	Doc. no.	
Checked By			Page 9 of 11

39) In the Project Explorer, select all the User source code files viz., "ADC_DAC.c", "Inverter.c", "Main.c". "PSFB.c" and "Trigonometric.c" together and right click on any one of the file.
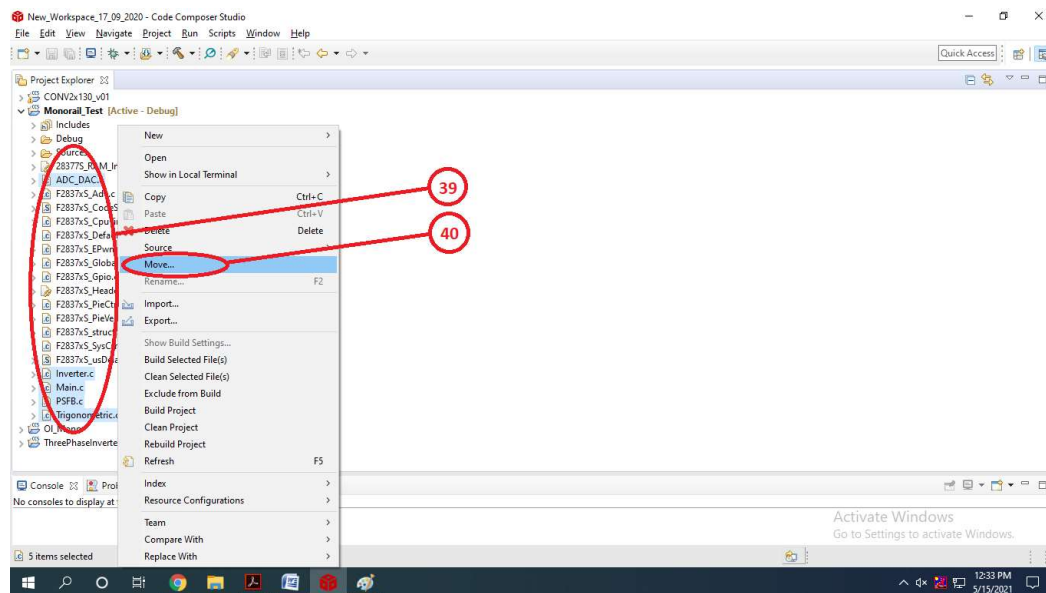
40) Select "Move".

Fig.19

41) Select the folder that you created to store the Source Code. In this example it is called "Sources".
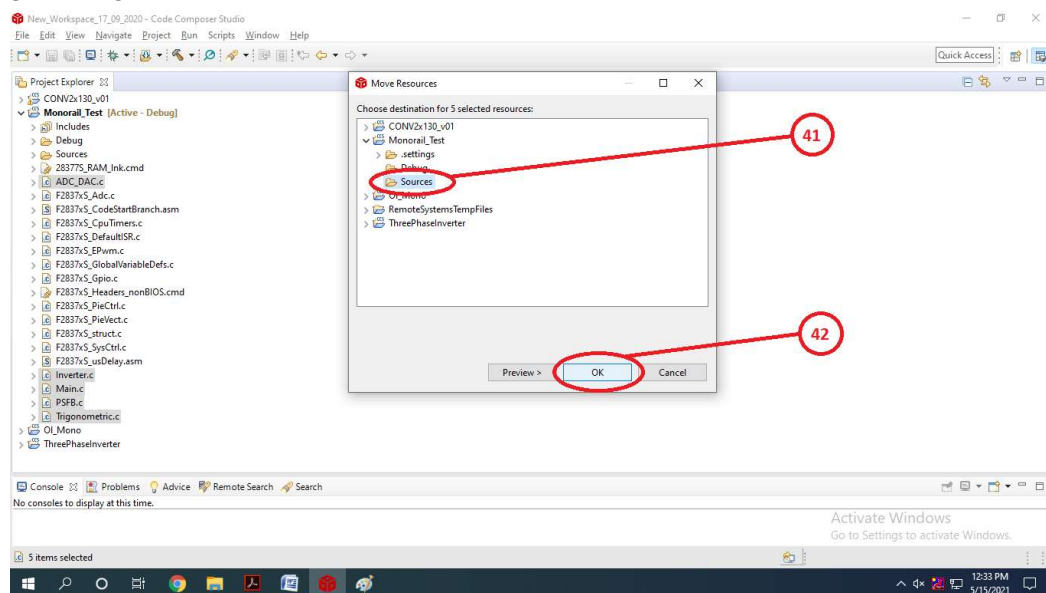
42) Click on OK.

Fig.20

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HIND RECTIFIERS LTD	DATE : 15.05.2021

43) Repeat step 11 to open Properties and then repeat steps 15 to 17.
44) Locate and select the header folder from the handover folder.
   Typically its location is:-
   E:\Monorail Code
45) Click on OK.
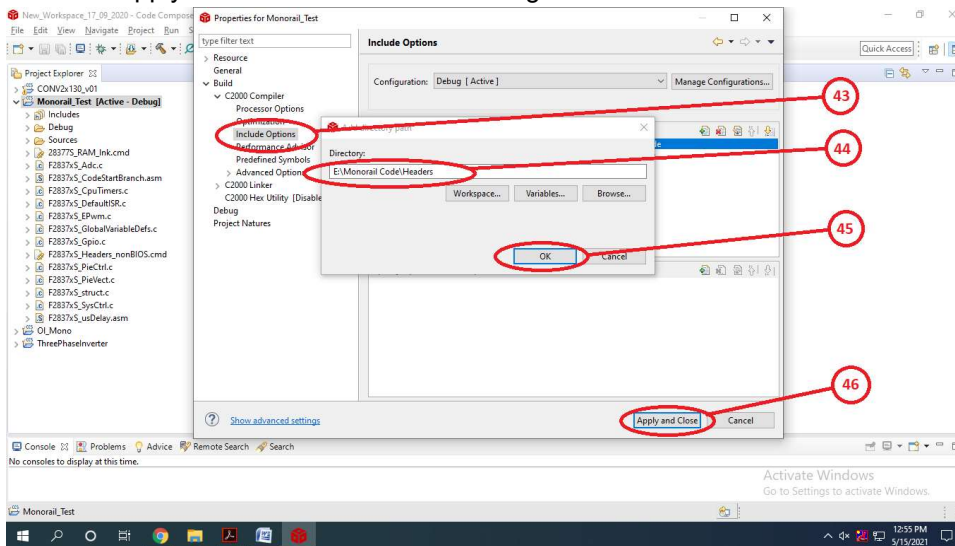46) Click on "Apply and Close" to save this configuration.

Fig.21

47) In the project explorer, click on the folder containing the user source codes and open the "Main.c" in the console by double clicking on it.
48) Click on Build Button (Its symbol looks like a hammer). This should successfully build the program and it should ready to run and debug it.
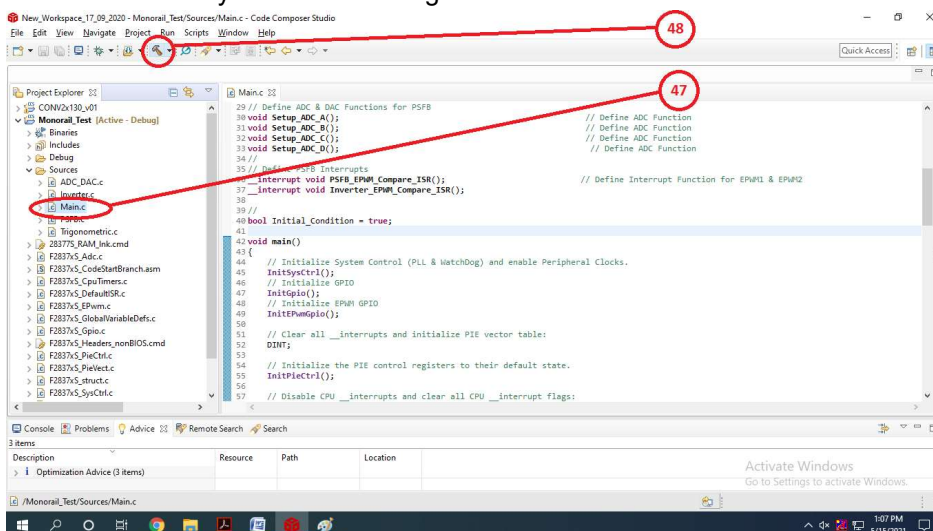

Fig.22

Report By	Sourjya Mondal	Doc. no.	
Checked By			Page 11 of 11