How to configure KEIL ARM-MDK and STMicroelectronics firmware examples to work with the STM32F3DISCOVERY board

STEP 1: Install the ST-LINK/V2 USB driver for Windows 7

First install the ST-LINK/V2 USB driver for Windows 7 for the **ST-LINK/V2 in-circuit debugger and programmer** located on the STM32F3DISCOVERY board from STMicroelectronics. Use the How to install the ST-LINK/V2 USB driver for Windows 7 to use with the STM32F3DISCOVERY board from STMicroelectronics and KEIL ARM-MDK document to complete this step. Only proceed to step 2 if the driver installation was successful. Ask your lecturer for assistance if you have problems with step 1.
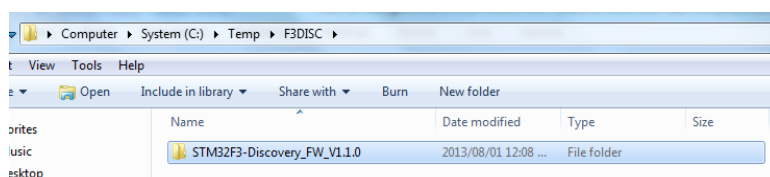
STEP 2: Download the latest firmware written by STMicroelectronics from website.
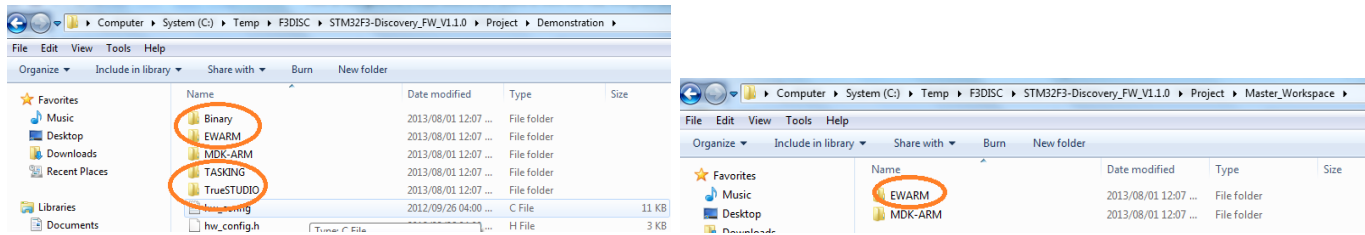

STEP 3: Unzip the STM32F3 Discovery kit firmware package to a folder of your preference.

I will create and use folder C:\Temp\F3DISC   The unzipped files will be located in folder C:\Temp\F3DISC\
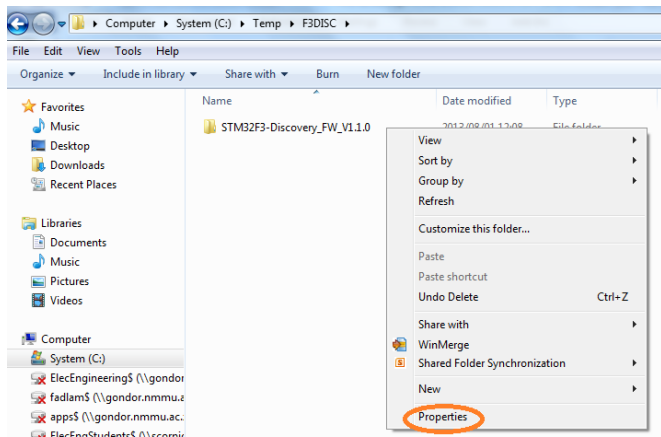

The folder name may be different as shown above due to a later firmware version. This is firmware version 1.1.0
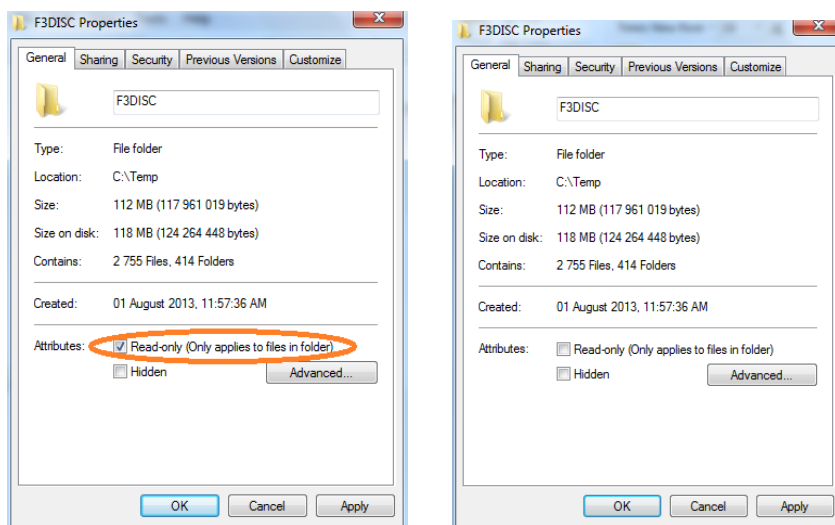

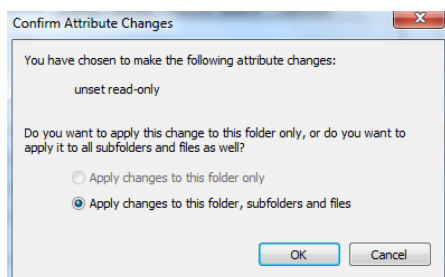**STEP 4:** **For simplification deletes all the folders that will not be used by the KEIL ARM-MDK**

STEP 5: **Remove the "Read-only" file properties of all the files in the folders**

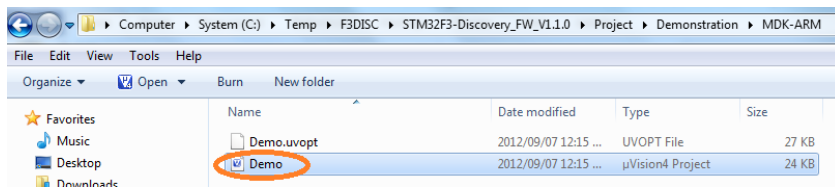**Double click** inside the ORANGE circle to remove the "Read-only" file properties of the files.

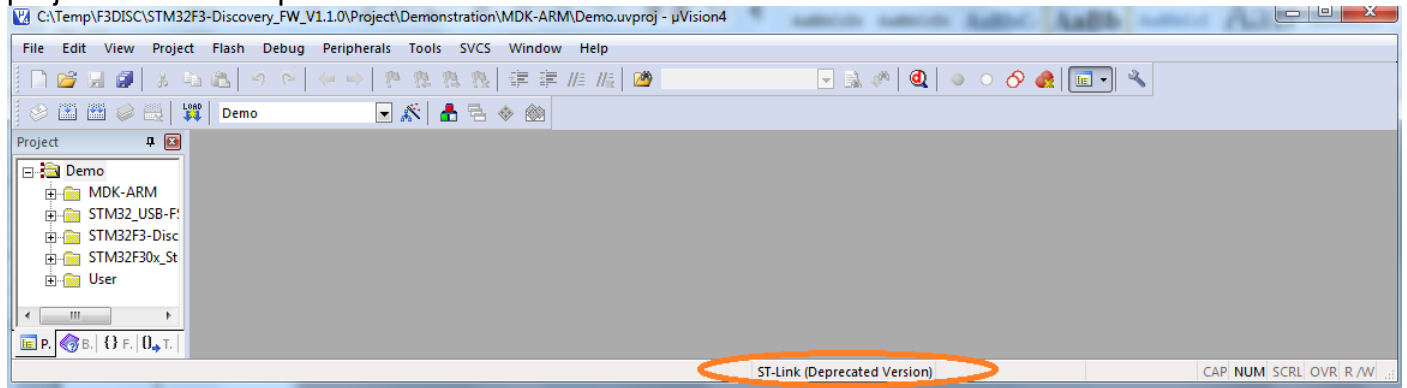**Double click** on the "Apply" button after the "Read-only" attributes has been removed.

Double click on the "OK" button to confirm the changes.

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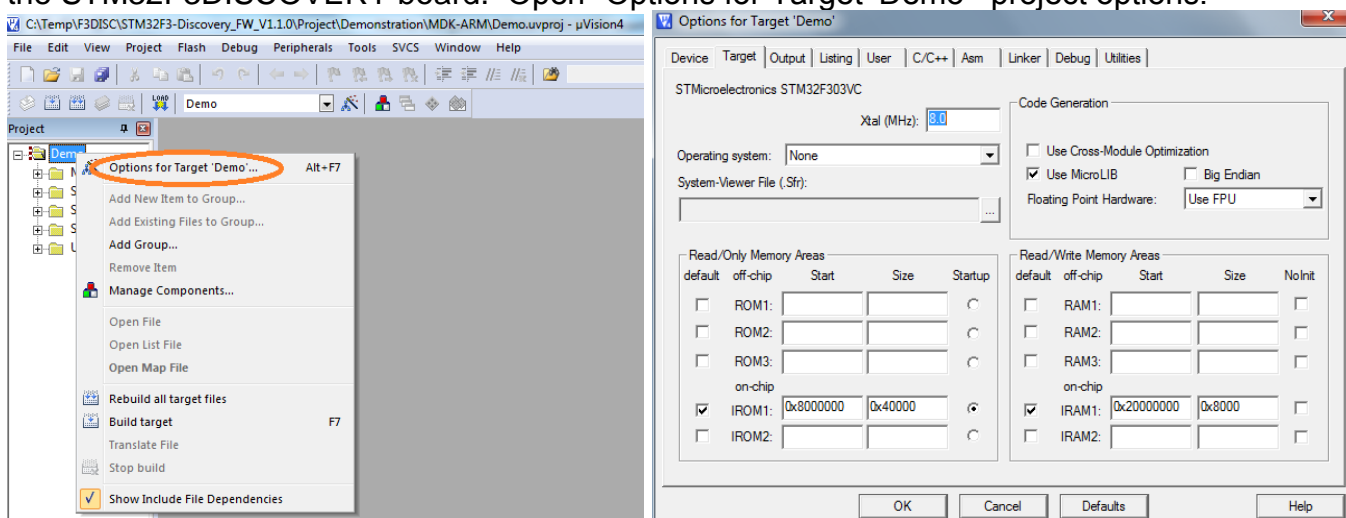## STEP 6:   Open the "Demo" STM32F3DISCOVERY board project

Double click filename in the ORANGE circle to open the "Demo" STM32F3DISCOVERY board project in the KEIL µVision IDE.
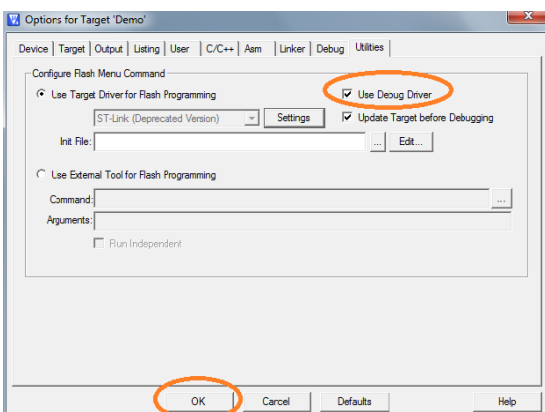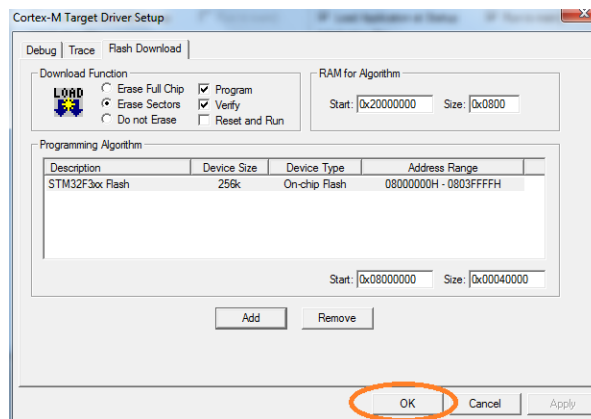

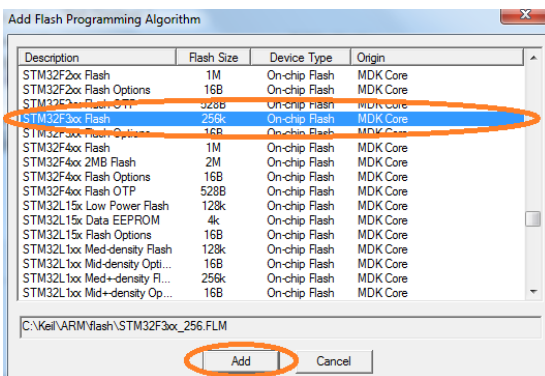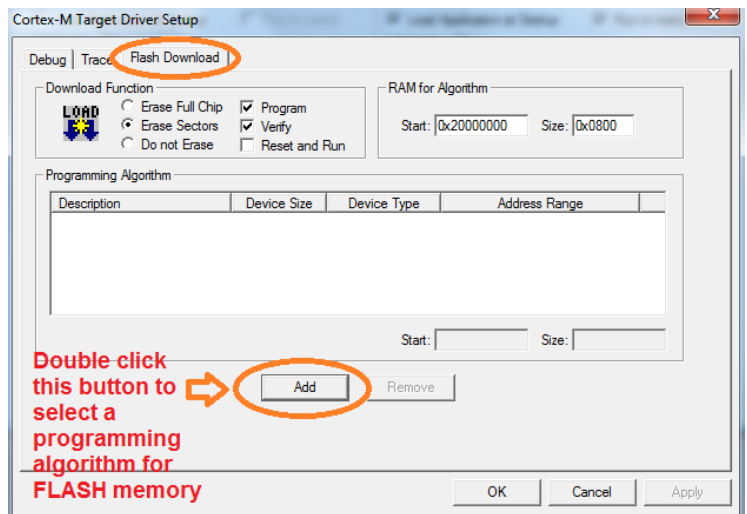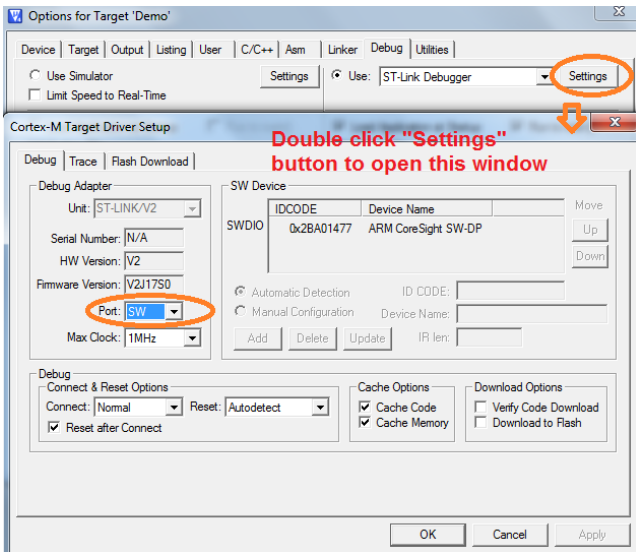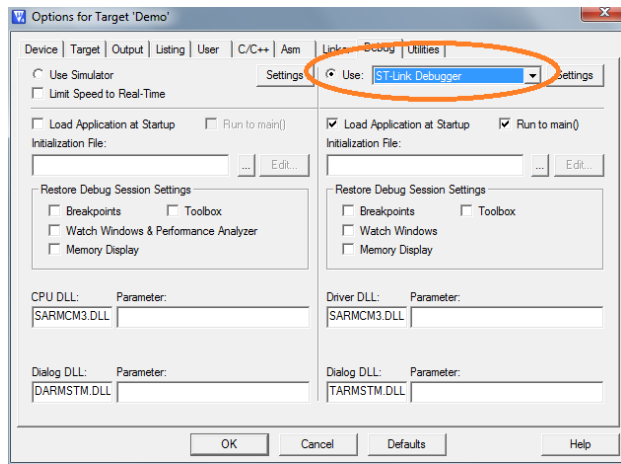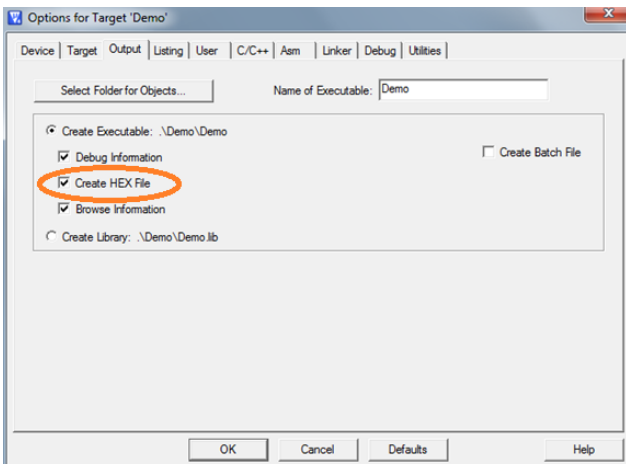**ST-Link Depreciated Version is wrong for the STM32F3DISCOVERY board.**
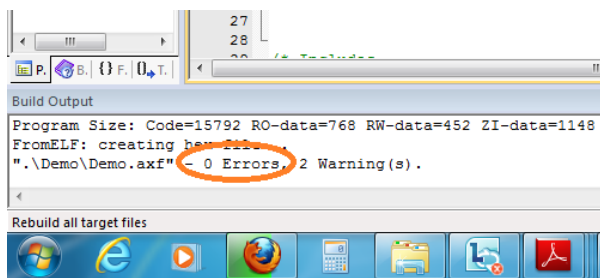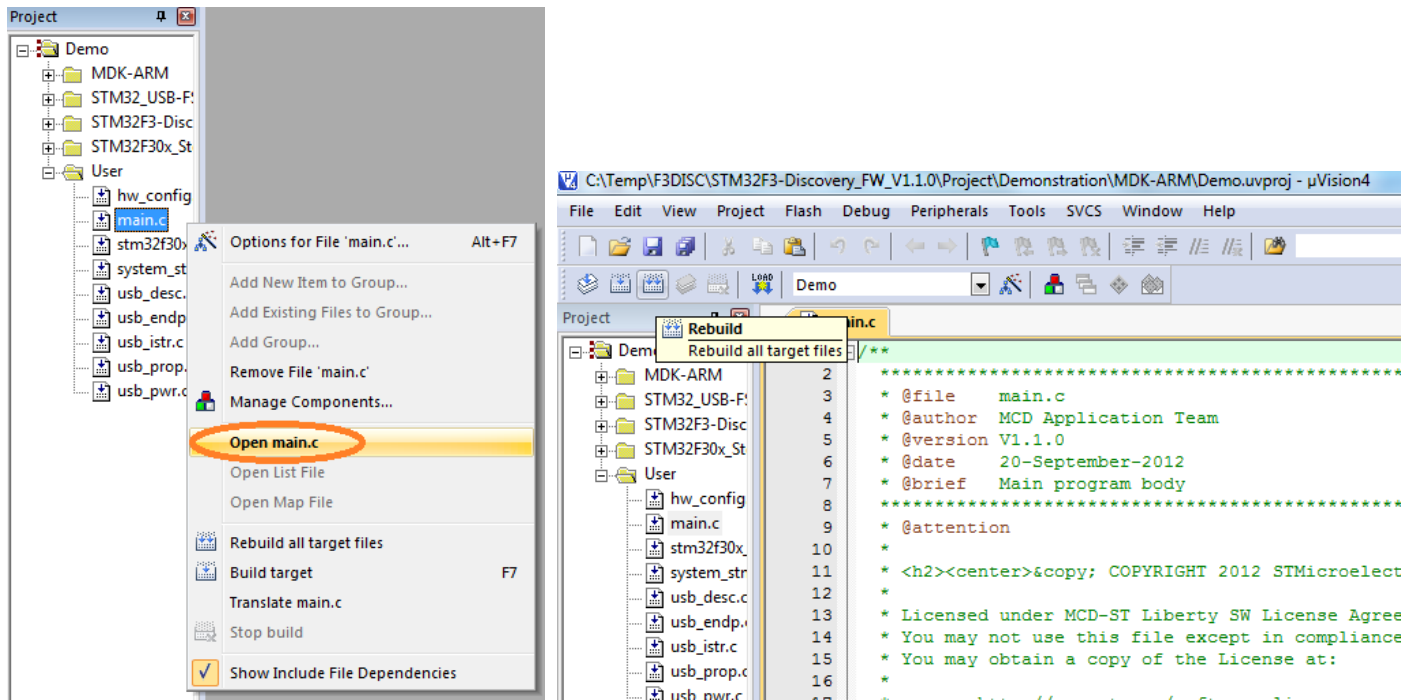
STEP 7:   Changing µVision project properties for the ST-LINK/V2 and STM32F3DISCOVERY board

The project opened in µVision IDE shows that the ST-Link(Depreciated Version) is selected. This setting is wrong because the ST-LINK/V2 and not the ST-Link(Depreciated Version) is located on the STM32F3DISCOVERY board. Open "Options for Target 'Demo'" project options.
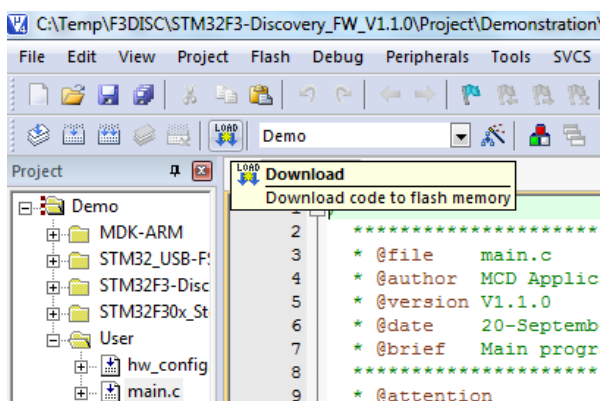
Double click "Settings" button to open this window

Double click this button to select a programming algorithm for FLASH memory

STEP 8: Open main.c source code file and re-build complete "Demo" project
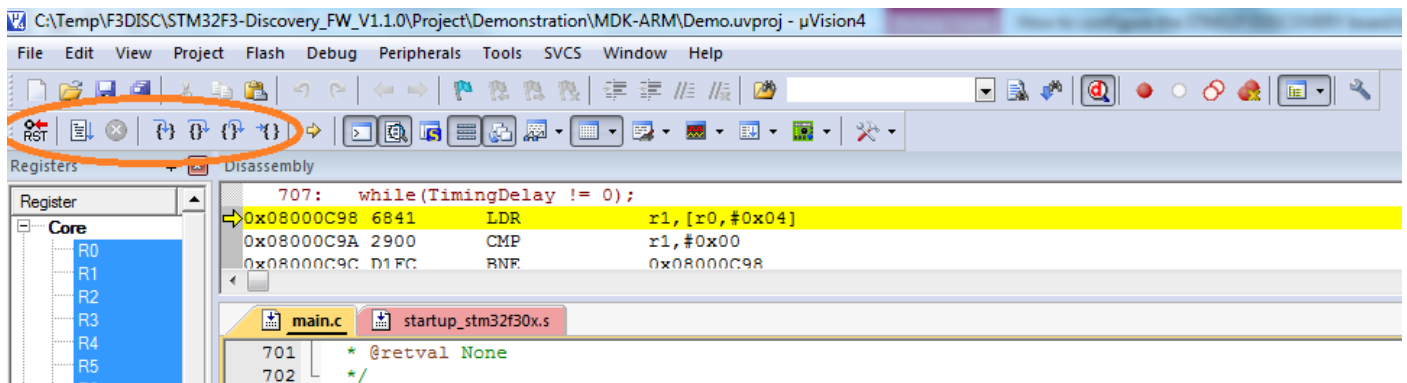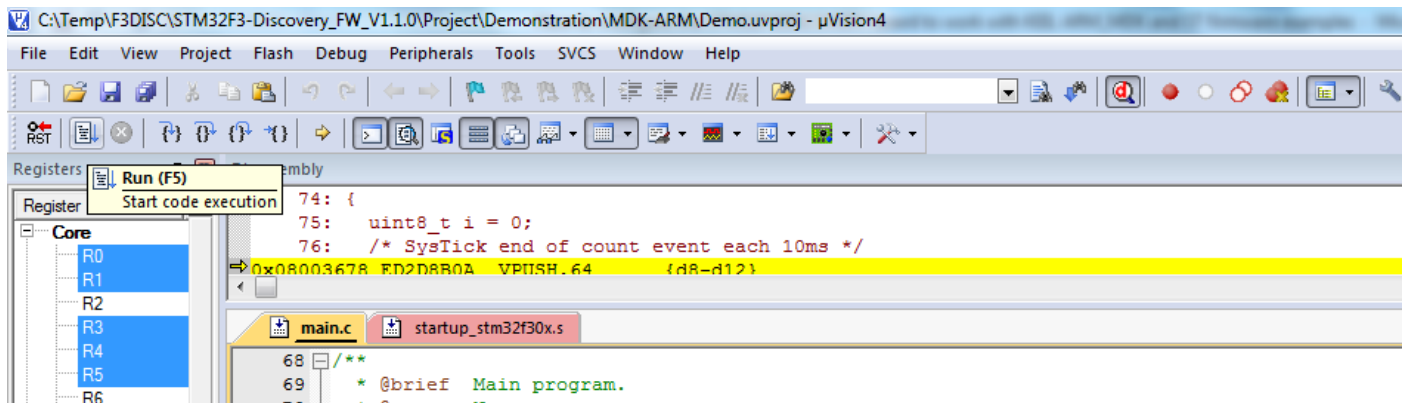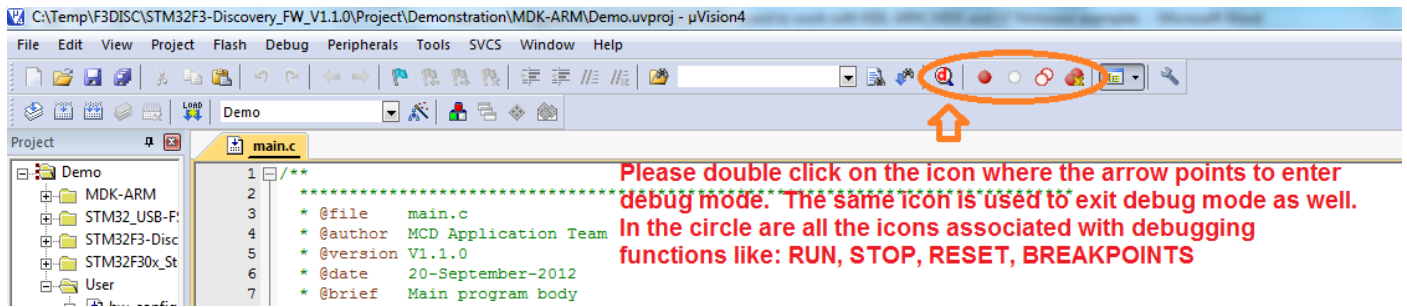

There should be no errors. For now please ignore the two warnings.

STEP 9: Download program in machine language format to the FLASHROM of the STM32F303VCT6 microcontroller located on the STM32F3DISCOVERY board.

We have used the ST-LINK/V2 in-circuit debugger and programmer purely as a programmer during this step.

STEP 10: Enter debug mode to RUN, STOP and RESET of the "Demo" program on the STM32F3DISCOVERY board.

Please double click on the icon where the arrow points to enter debug mode. The same icon is used to exit debug mode as well. In the circle are all the icons associated with debugging functions like: RUN, STOP, RESET, BREAKPOINTS

In the circle are the debugging functions like: RUN, STOP, RESET, STEP, STEP OVER, STEP OUT, RUN TO CURSOR LINE.

STEP 10: This is where we take a rest and you start working. Enjoy.