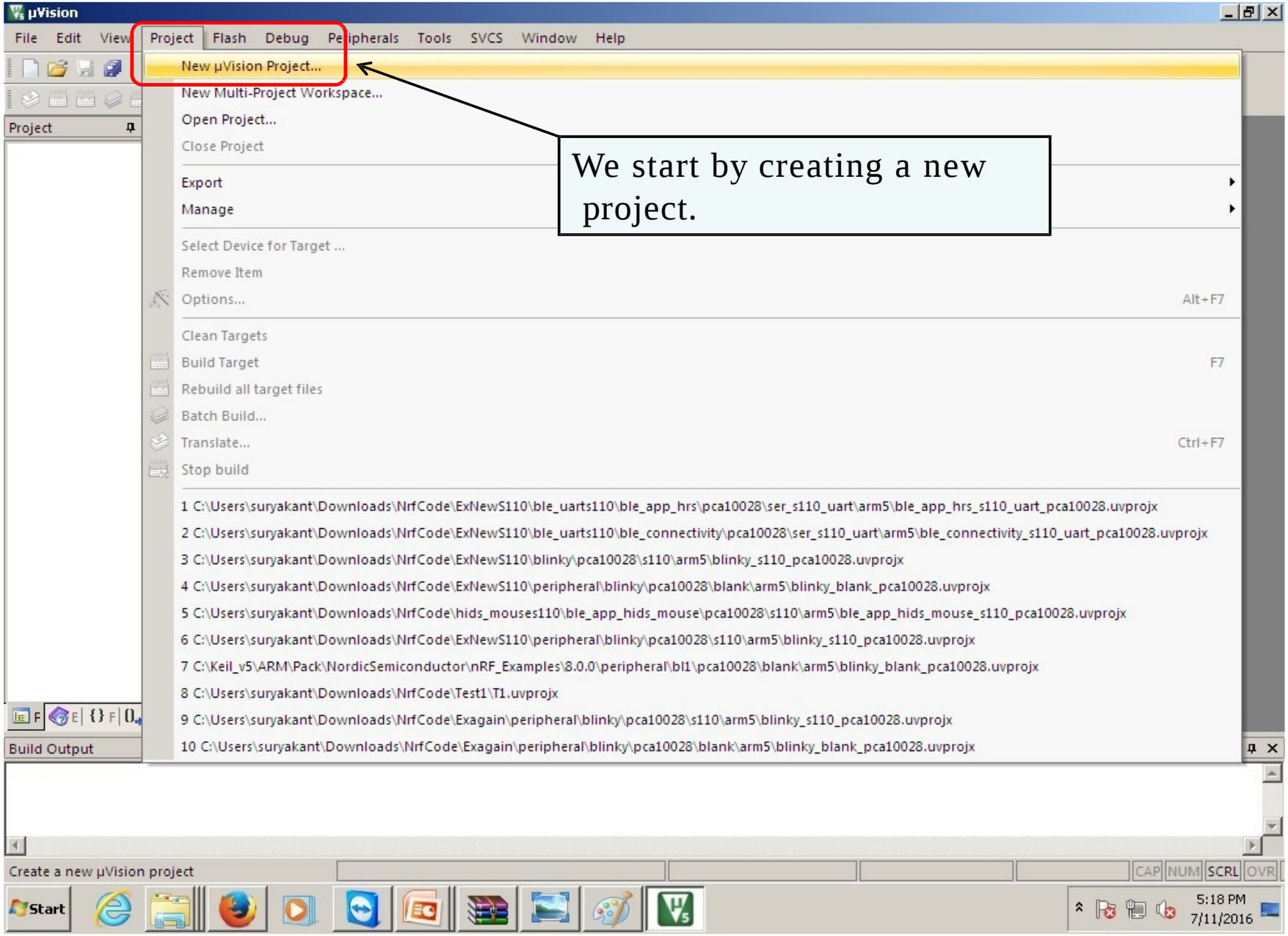
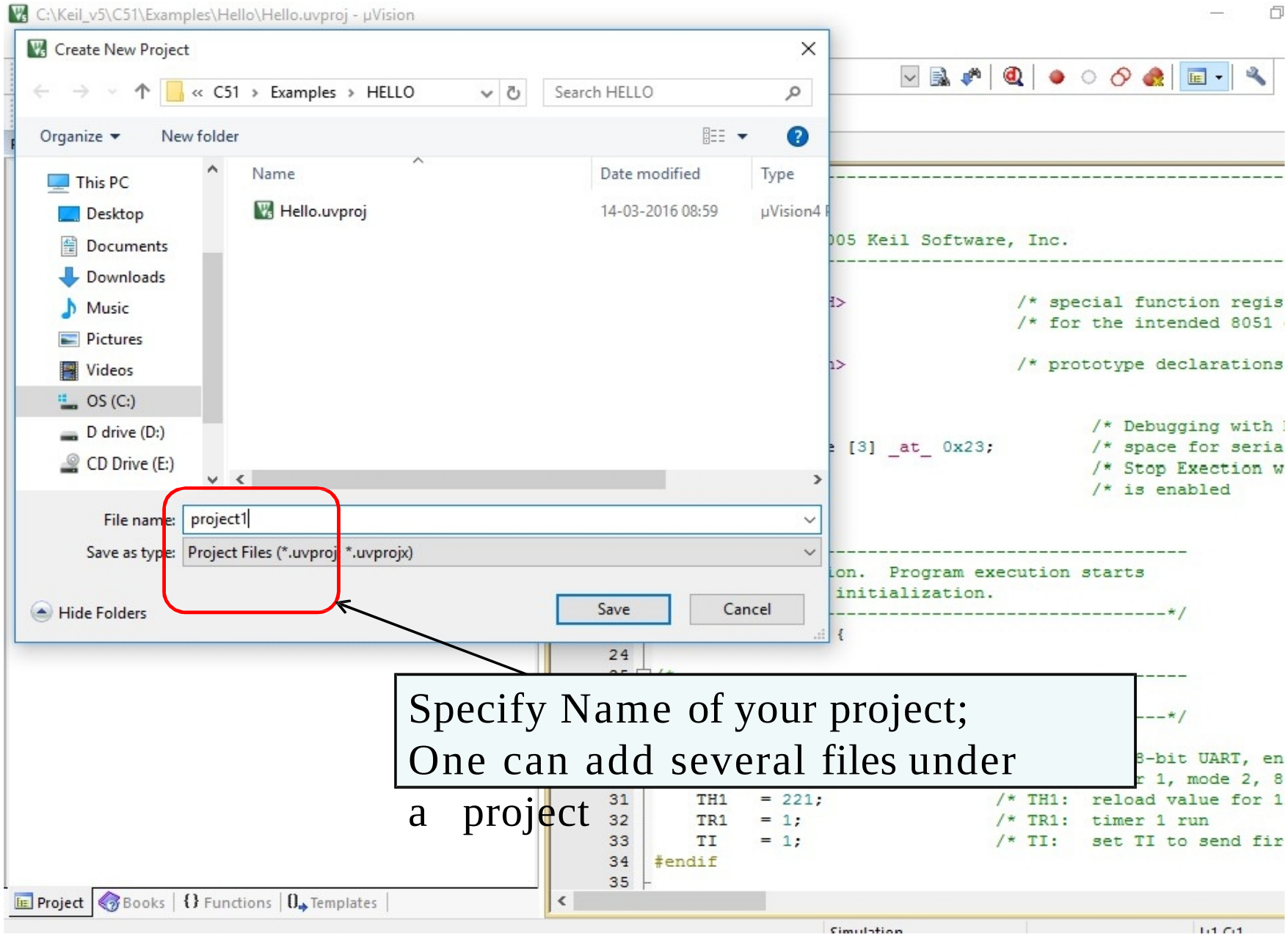
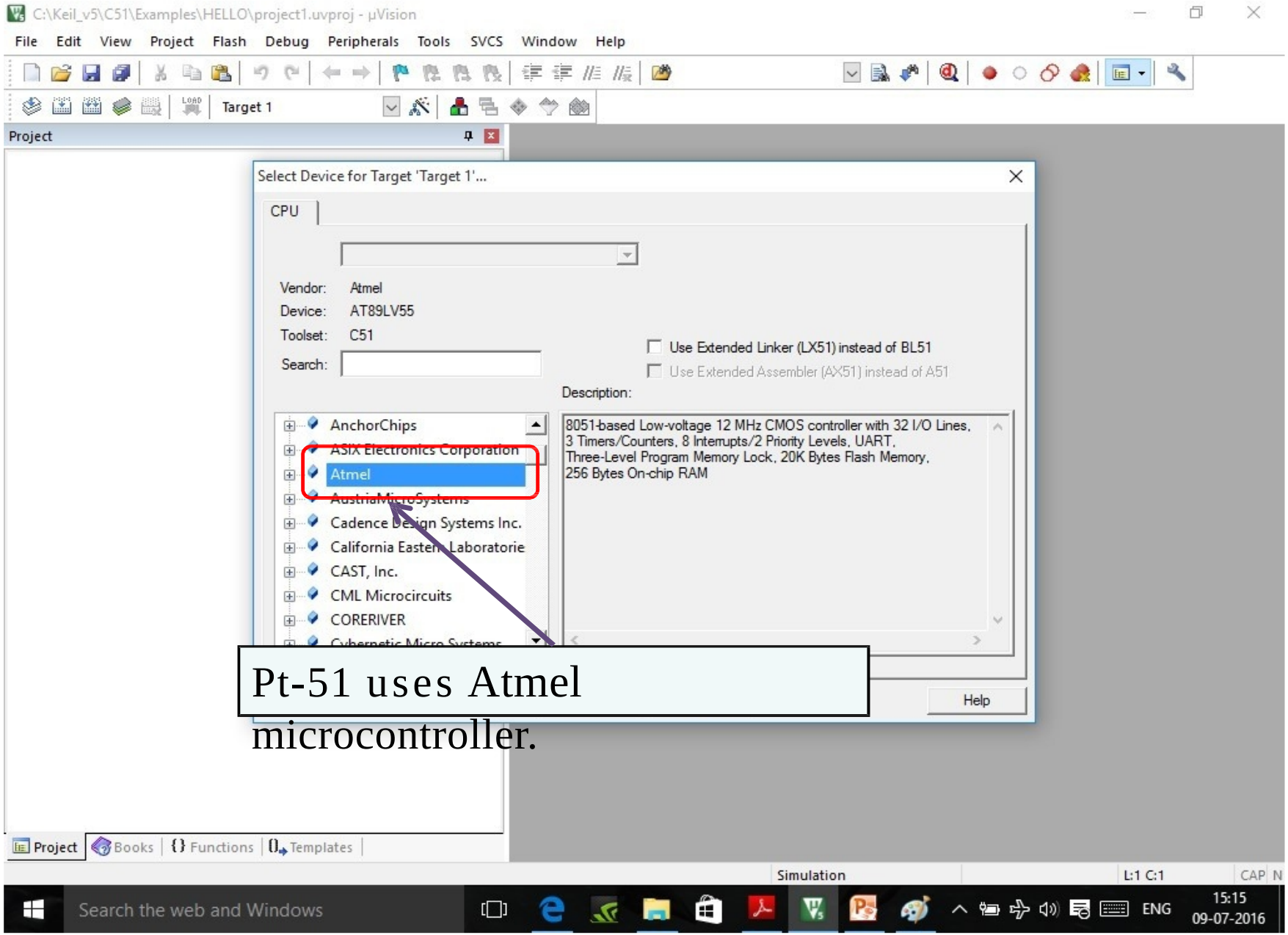
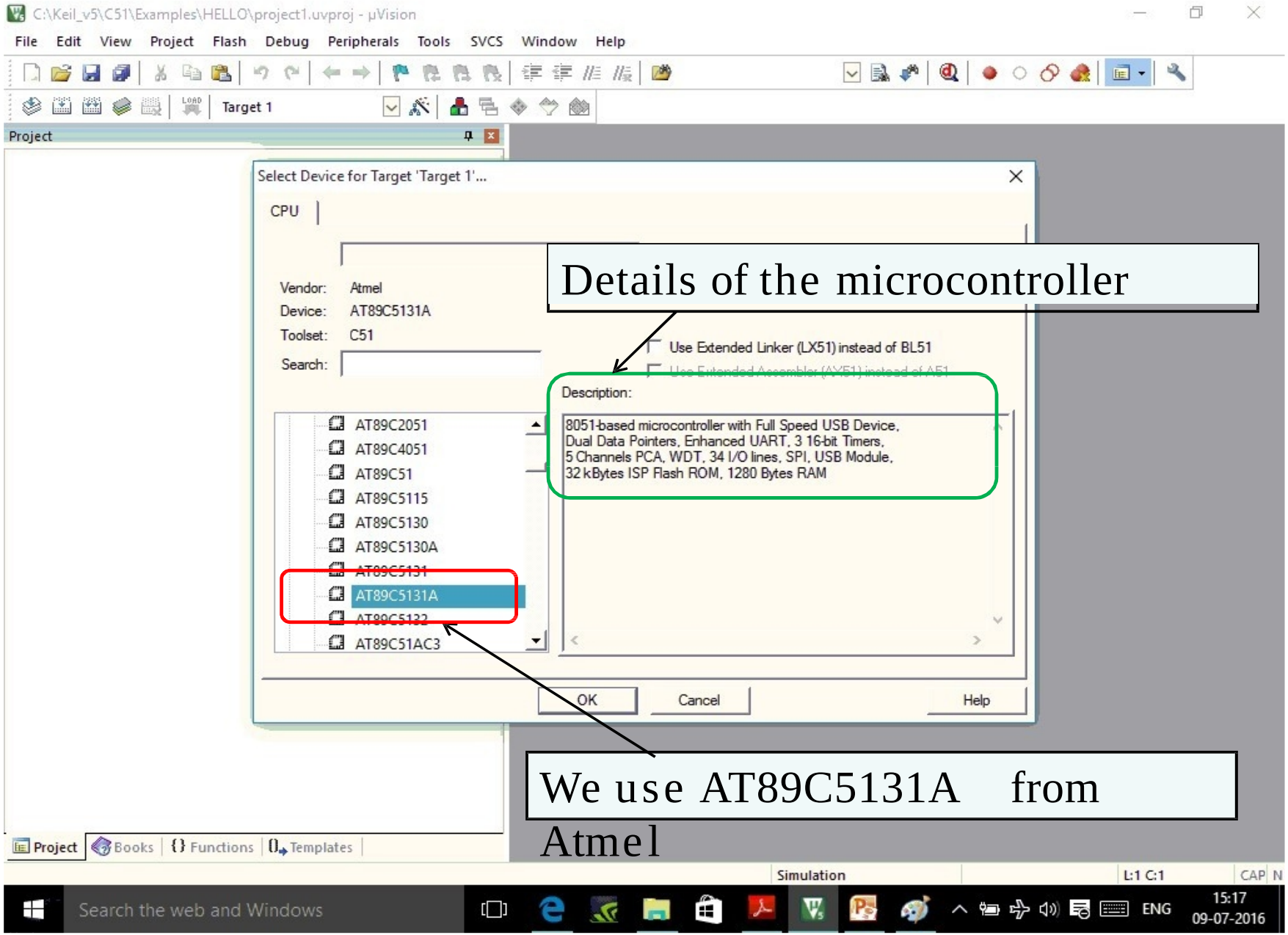

µVision
File Edit View Project Flash Debug Peripherals Tools SVCS Window Help
New µVision Project...
New Multi-Project Workspace...
Open Project...
Close Project
Export
Manage
Select Device for Target ...
Remove Item
Options... Alt+F7
Clean Targets
Build Target F7
Rebuild all target files
Batch Build...
Translate... Ctrl+F7
Stop build
1 C:\Users\suryakant\Downloads\NrfCode\ExNewS110\ble_uarts110\ble_app_hrs\pca10028\ser_s110_uart\arm5\ble_app_hrs_s110_uart_pca10028.uvprojx
2 C:\Users\suryakant\Downloads\NrfCode\ExNewS110\ble_uarts110\ble_connectivity\pca10028\ser_s110_uart\arm5\ble_connectivity_s110_uart_pca10028.uvprojx
3 C:\Users\suryakant\Downloads\NrfCode\ExNewS110\blinky\pca10028\s110\arm5\blinky_s110_pca10028.uvprojx
4 C:\Users\suryakant\Downloads\NrfCode\ExNewS110\peripheral\blinky\pca10028\blank\arm5\blinky_blank_pca10028.uvprojx
5 C:\Users\suryakant\Downloads\NrfCode\hids_mouses110\ble_app_hids_mouse\pca10028\s110\arm5\ble_app_hids_mouse_s110_pca10028.uvprojx
6 C:\Users\suryakant\Downloads\NrfCode\ExNewS110\peripheral\blinky\pca10028\s110\arm5\blinky_s110_pca10028.uvprojx
7 C:\Keil_v5\ARM\Pack\NordicSemiconductor\nRF_Examples\8.0.0\peripheral\bl1\pca10028\blank\arm5\blinky_blank_pca10028.uvprojx
8 C:\Users\suryakant\Downloads\NrfCode\Test1\T1.uvprojx
9 C:\Users\suryakant\Downloads\NrfCode\Exagain\peripheral\blinky\pca10028\s110\arm5\blinky_s110_pca10028.uvprojx
10 C:\Users\suryakant\Downloads\NrfCode\Exagain\peripheral\blinky\pca10028\blank\arm5\blinky_blank_pca10028.uvprojx
We start by creating a new project.
Project
Build Output
Create a new µVision project
CAP NUM SCRL OVR
Start
5:18 PM
7/11/2016

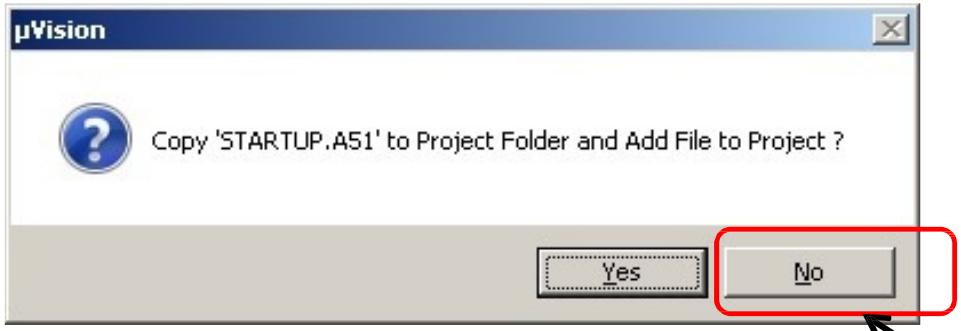

C:\Keil_v5\C51\Examples\Hello\Hello.uvproj - µVision
Create New Project
« C51 › Examples › HELLO
Search HELLO
Organize
New folder
This PC
Desktop
Documents
Downloads
Music
Pictures
Videos
OS (C:)
D drive (D:)
CD Drive (E:)
Name
Date modified
Type
Hello.uvproj
14-03-2016 08:59
µVision4
File name: project1
Save as type: Project Files (*.uvproj *.uvprojx)
Hide Folders
Save
Cancel
Project
Books
Functions
Templates
Specify Name of your project;
One can add several files under a project



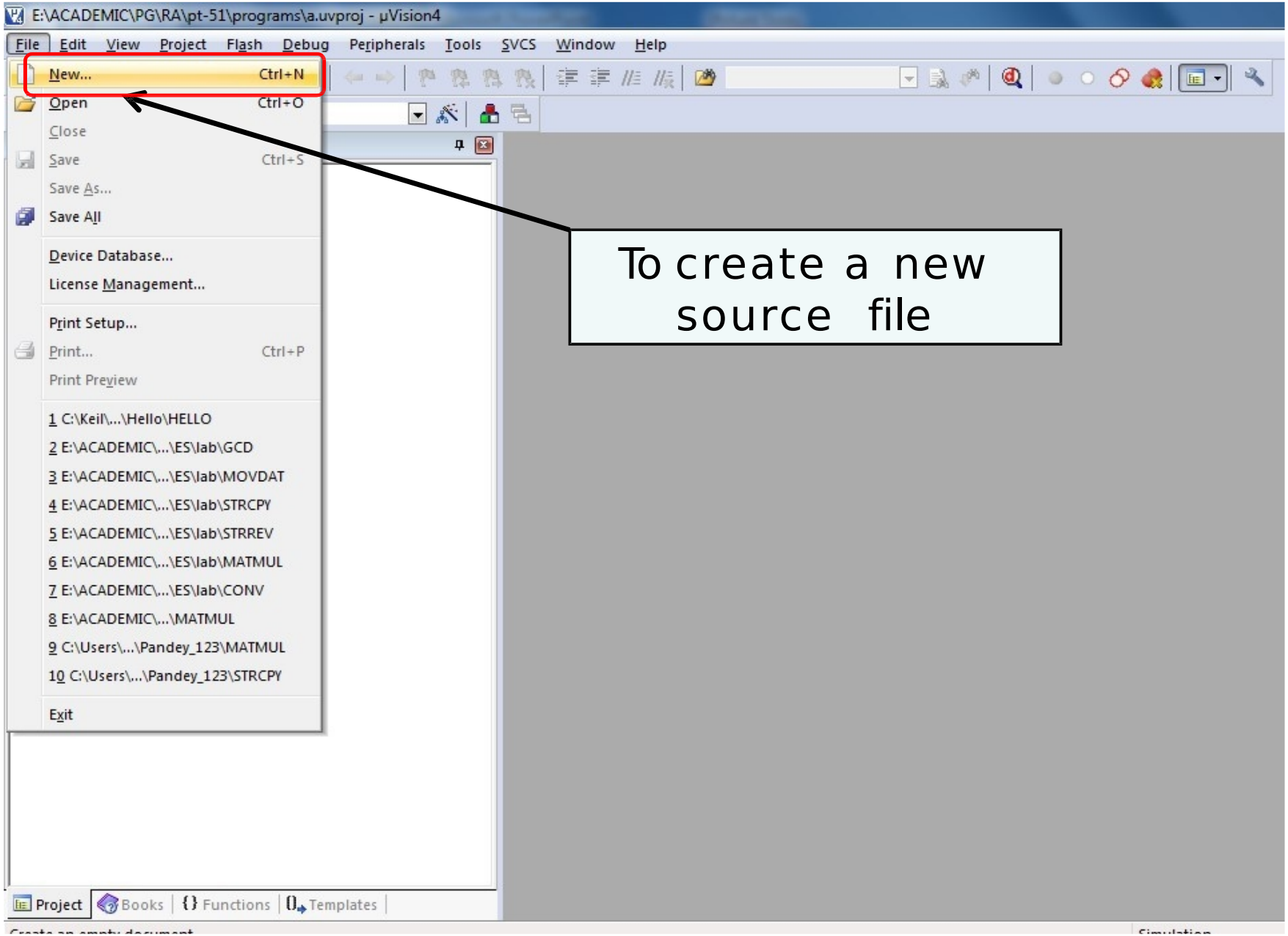
Pt-51 uses Atmel microcontroller.

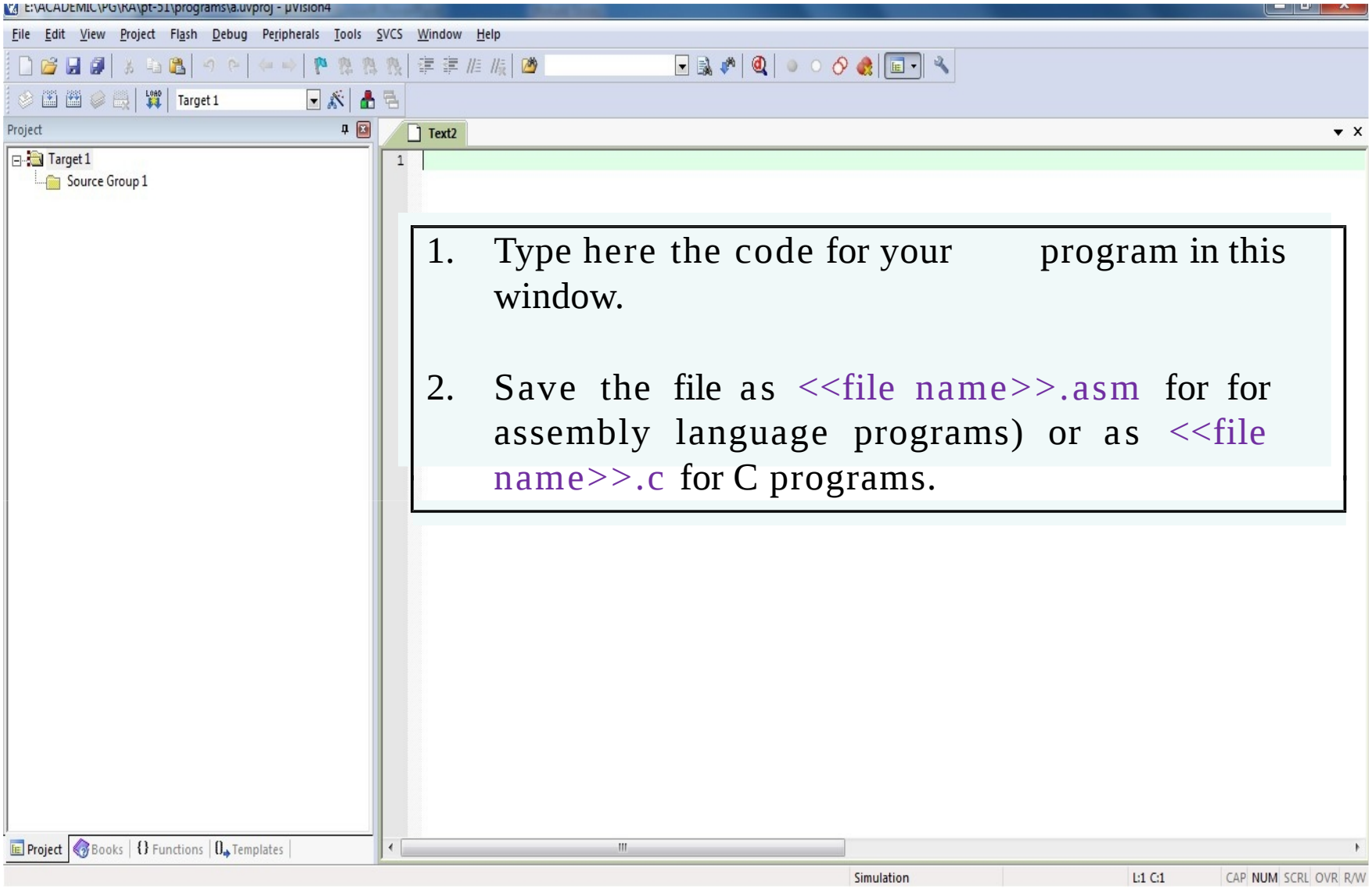

C:\Keil_v5\C51\Examples\HELLO\project1.uvproj - µVision
File Edit View Project Flash Debug Peripherals Tools SVCS Window Help
Target 1
Project
Select Device for Target 'Target 1'...
CPU
Vendor: Atmel
Device: AT89C5131A
Toolset: C51
Search:
Use Extended Linker (LX51) instead of BL51
Description:
8051-based microcontroller with Full Speed USB Device,
Dual Data Pointers, Enhanced UART, 3 16-bit Timers,
5 Channels PCA, WDT, 34 I/O lines, SPI, USB Module,
32 kBytes ISP Flash ROM, 1280 Bytes RAM
AT89C2051
AT89C4051
AT89C51
AT89C5115
AT89C5130
AT89C5130A
AT89C5131
AT89C5131A
AT89C5132
AT89C51AC3
OK
Cancel
Help
Details of the microcontroller
We use AT89C5131A from Atmel
Project
Books
Functions
Templates
Simulation
L:1 C:1
CAP N
Search the web and Windows
ENG
15:17
09-07-2016

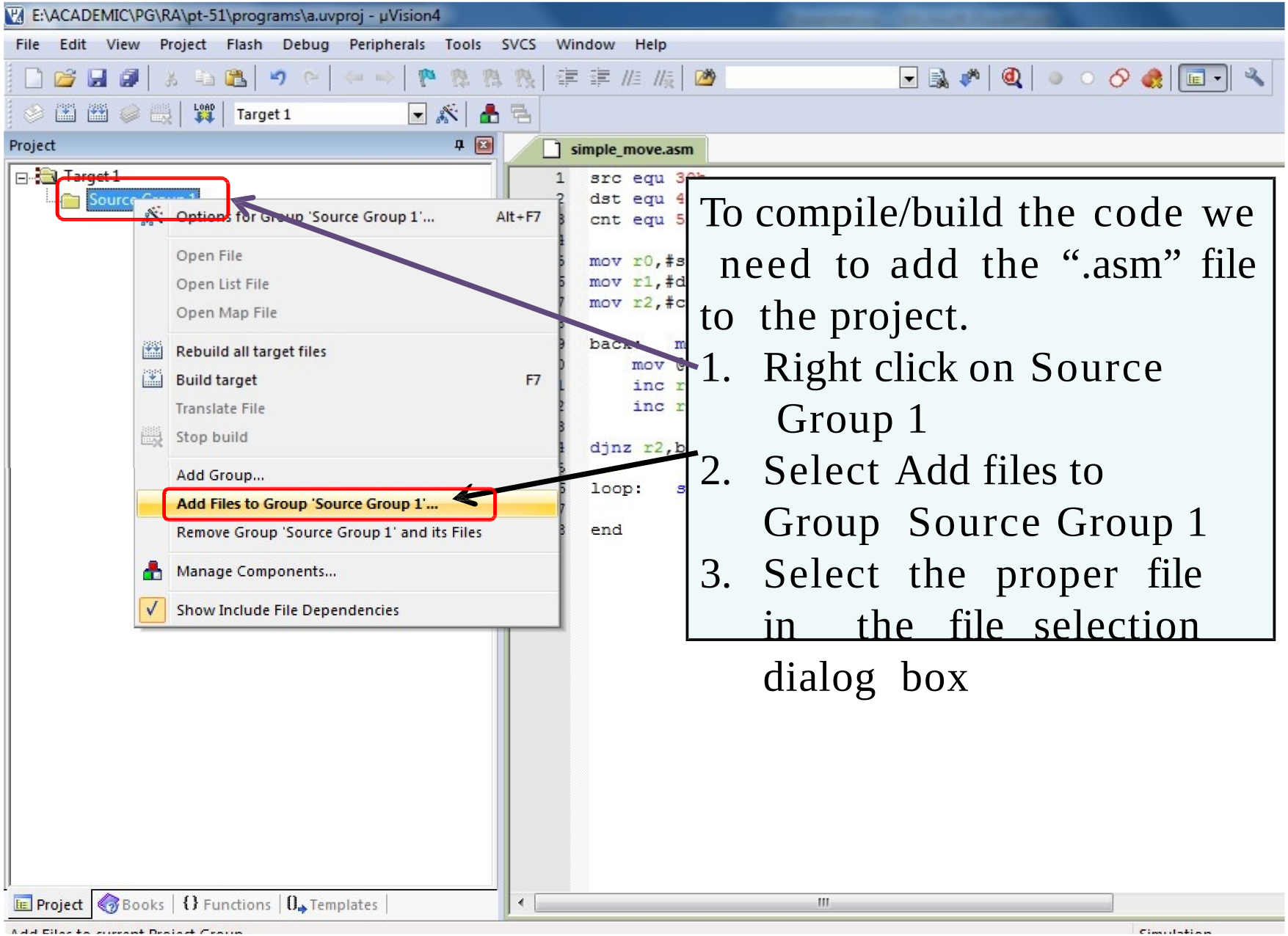
Creating a New Project

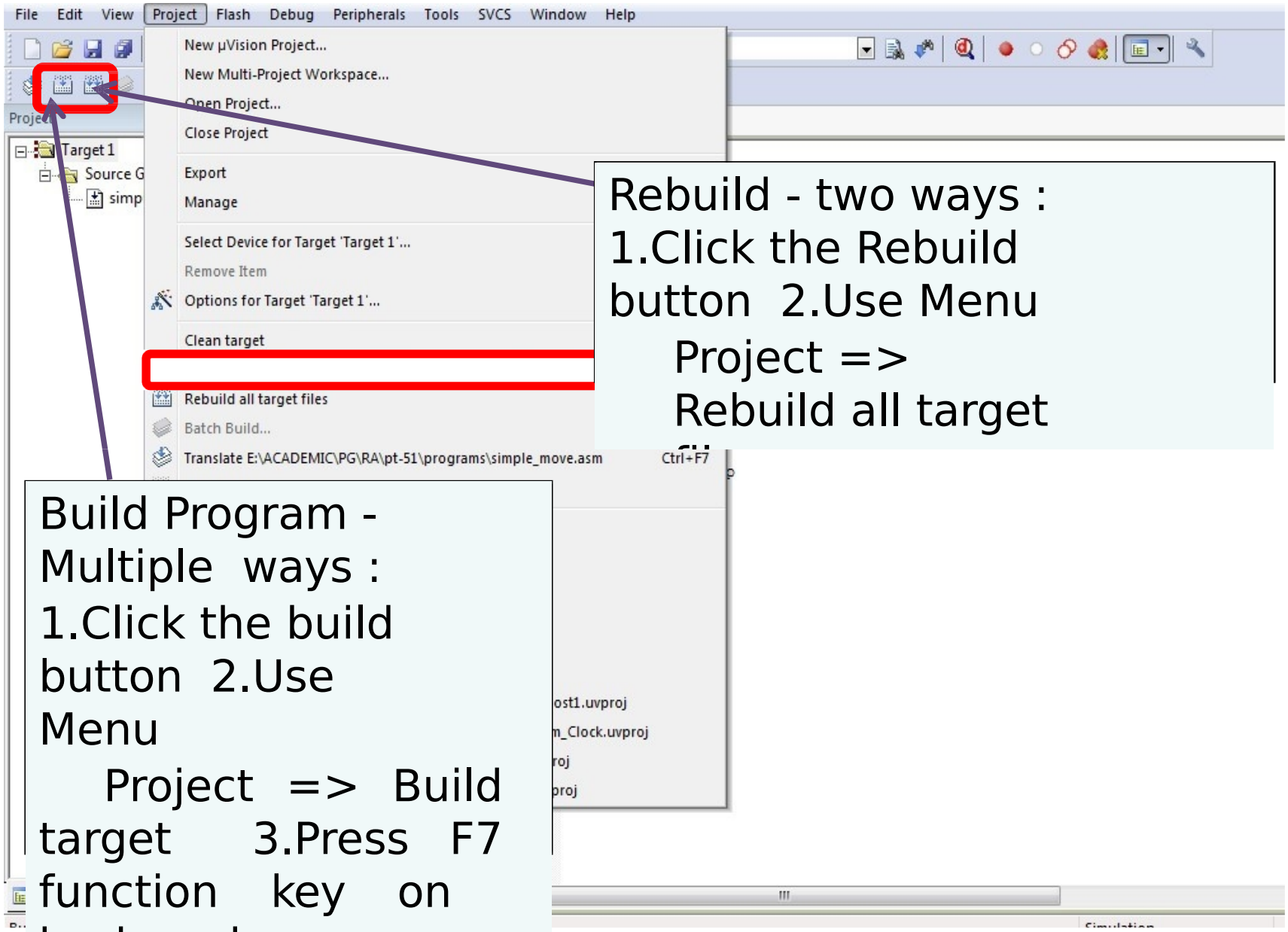


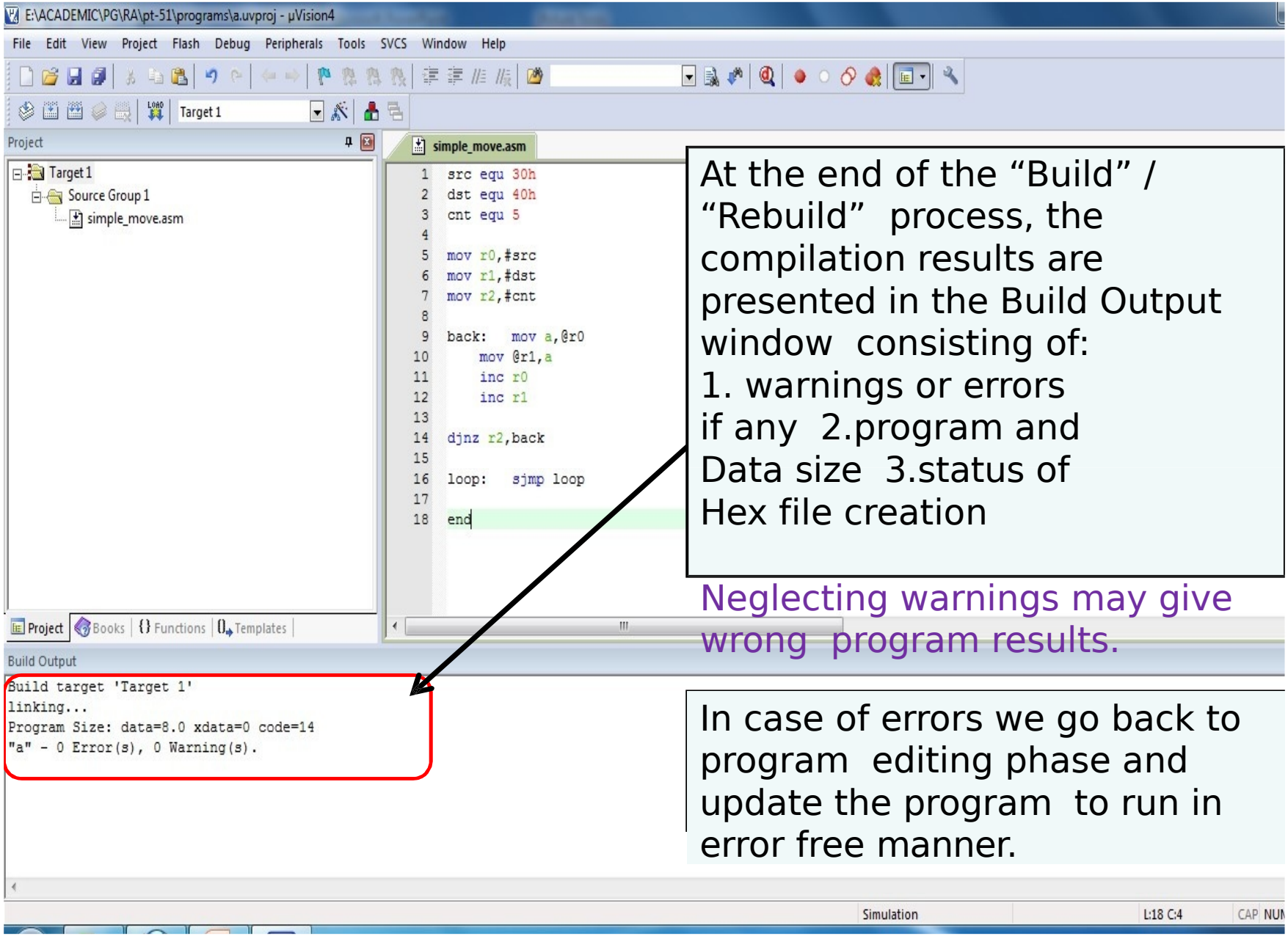
- Select “No” for programs in Assembly language.
- Startup.A51 is a file for programs in C. It is used to setup the proper memory areas like Code, Data and Stack for use.


E:\ACADEMIC\PG\RA\pt-51\programs\a.uvproj - µVision4
File Edit View Project Flash Debug Peripherals Tools SVCS Window Help
New... Ctrl+N
Open Ctrl+O
Close
Save Ctrl+S
Save As...
Save All
Device Database...
License Management...
Print Setup...
Print... Ctrl+P
Print Preview
1 C:\Keil\...\Hello\HELLO
2 E:\ACADEMIC\...\ES\lab\GCD
3 E:\ACADEMIC\...\ES\lab\MOVDAT
4 E:\ACADEMIC\...\ES\lab\STRCPY
5 E:\ACADEMIC\...\ES\lab\STRREV
6 E:\ACADEMIC\...\ES\lab\MATMUL
7 E:\ACADEMIC\...\ES\lab\CONV
8 E:\ACADEMIC\...\MATMUL
9 C:\Users\...\Pandey_123\MATMUL
10 C:\Users\...\Pandey_123\STRCPY
Exit
To create a new source file
Project Books Functions Templates


E:\ACADEMIC\PG\RA\pt-51\programs\a.uvproj - µVision4
File Edit View Project Flash Debug Peripherals Tools SVCS Window Help
Target 1
Project
Target 1
Source Group 1
Text2
1
1. Type here the code for your program in this window.
2. Save the file as <<file name>>.asm for for assembly language programs) or as <<file name>>.c for C programs.
Project Books Functions Templates
Simulation
L:1 C:1
CAP NUM SCRL OVR R/W


E:\ACADEMIC\PG\RA\pt-51\programs\a.uvproj - µVision4
File Edit View Project Flash Debug Peripherals Tools SVCS Window Help
Target 1
Project
Target 1
Source Group 1
Options for Group 'Source Group 1'... Alt+F7
Open File
Open List File
Open Map File
Rebuild all target files
Build target F7
Translate File
Stop build
Add Group...
Add Files to Group 'Source Group 1'...
Remove Group 'Source Group 1' and its Files
Manage Components...
Show Include File Dependencies
simple_move.asm
src equ 30h
dst equ 4
cnt equ 5
mov r0,#s
mov r1,#d
mov r2,#c
djnz r2,b
loop: s
end
Project Books Functions Templates
To compile/build the code we need to add the ".asm" file to the project.
1. Right click on Source Group 1
2. Select Add files to Group Source Group 1
3. Select the proper file in the file selection dialog box


File Edit View Project Flash Debug Peripherals Tools SVCS Window Help
New µVision Project...
New Multi-Project Workspace...
Open Project...
Close Project
Export
Manage
Select Device for Target 'Target 1'...
Remove Item
Options for Target 'Target 1'...
Clean target
Rebuild all target files
Batch Build...
Translate E:\ACADEMIC\PG\RA\pt-51\programs\simple_move.asm Ctrl+F7
Target 1
Source G
simp
Rebuild - two ways :
1.Click the Rebuild button 2.Use Menu
Project =>
Rebuild all target
Build Program - Multiple ways :
1.Click the build button 2.Use Menu
Project => Build target 3.Press F7 function key on keyboard



At the end of the “Build” / “Rebuild” process, the compilation results are presented in the Build Output window consisting of:
1. warnings or errors if any 2.program and Data size 3.status of Hex file creation

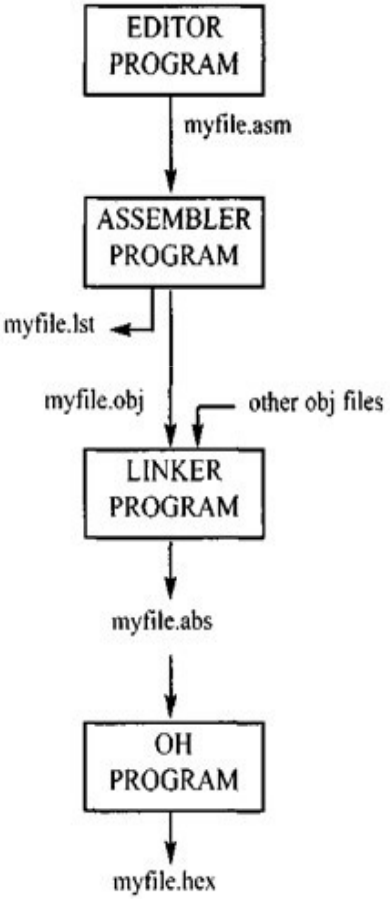
Neglecting warnings may give wrong program results.

In case of errors we go back to program editing phase and update the program to run in error free manner.

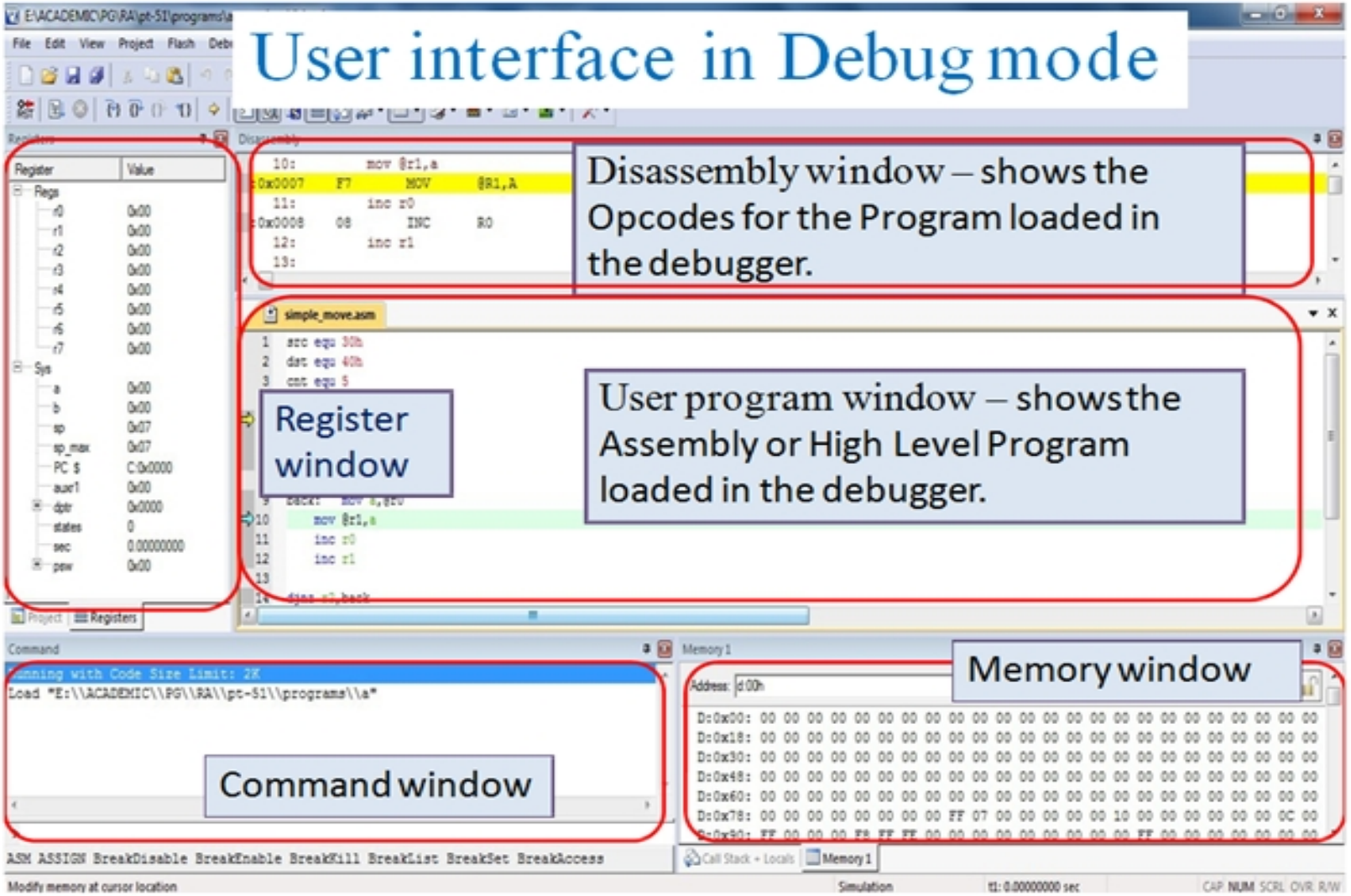
Files to be handled

- .ASM or .A51 file (the assembly code)

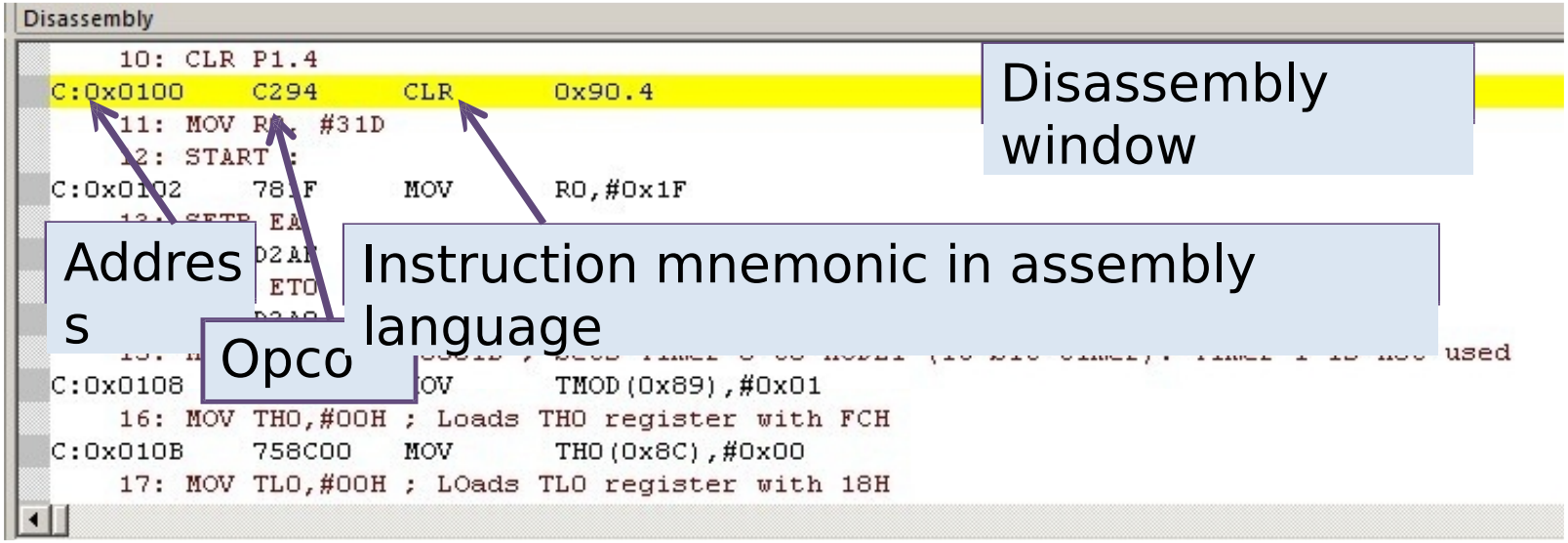
  LABEL: MNEMONICS ; Comment
- .OBJ file holds the machine language code and data for the program can contain relative/unresolved addresses
- Absolute file (Does not use extension)
- .HEX file holds the machine code in text format suitable for download
- .LST file is a line organized file which lists all the codes and addresses as well as errors reported by the assembler

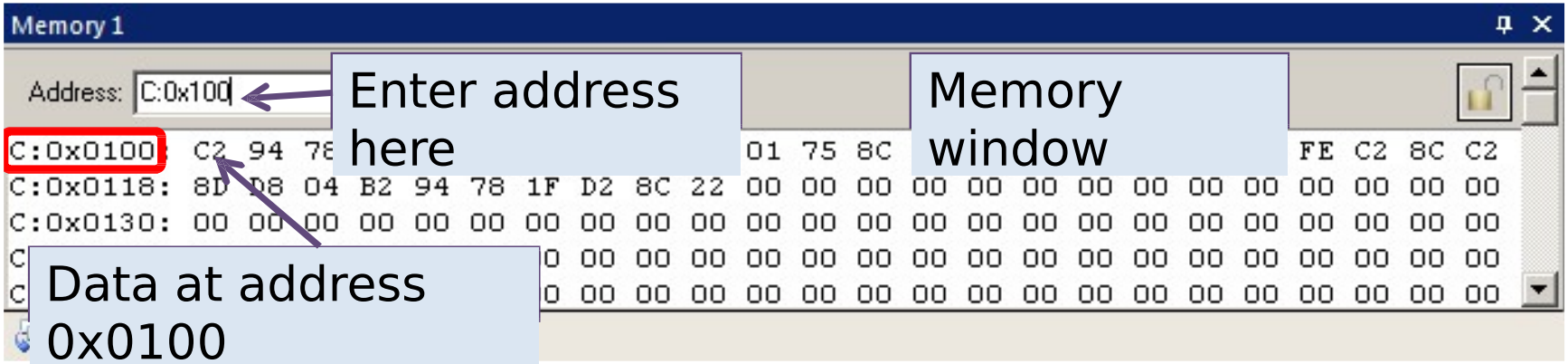


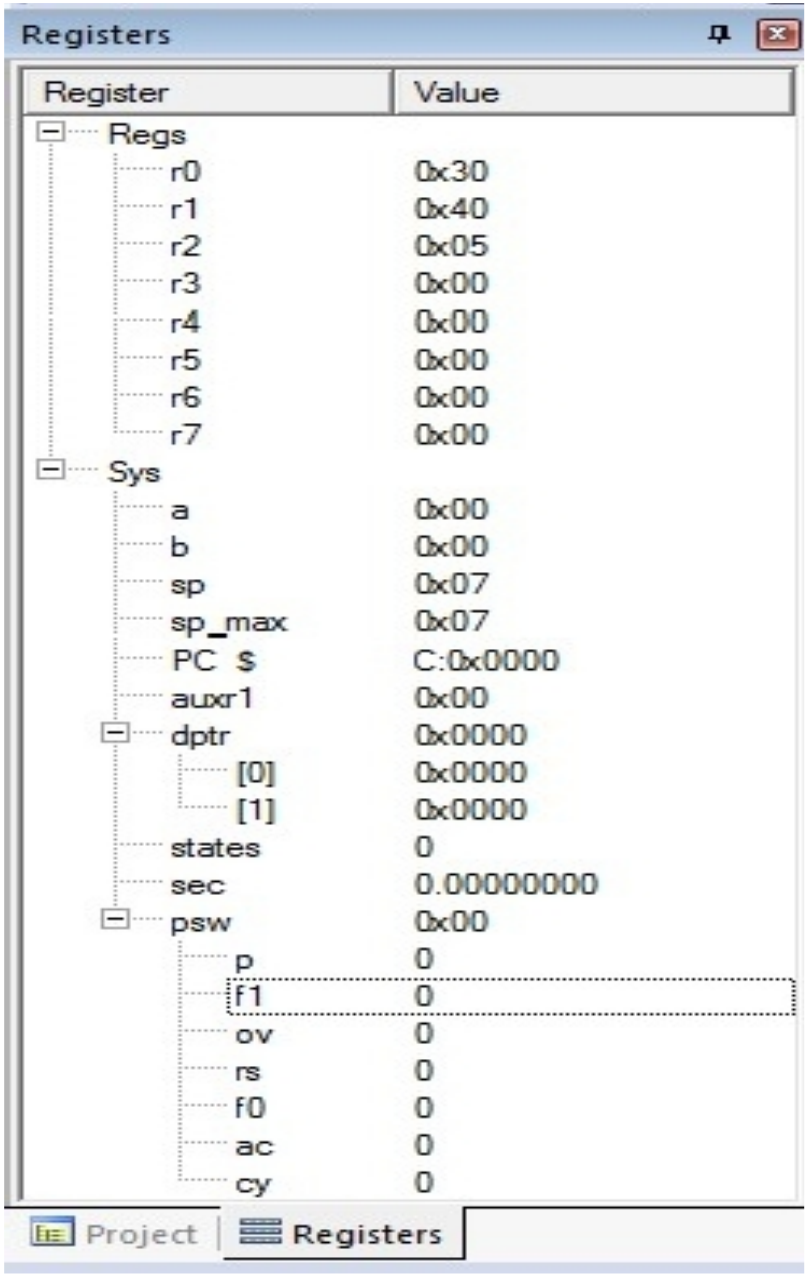
User interface in Debug mode



Details of Disassembly and Memory window







The Registers window provides access to all the registers including the flag register , DPTRs etc.