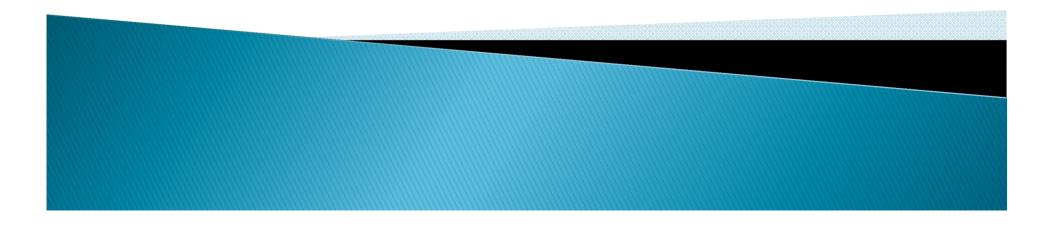
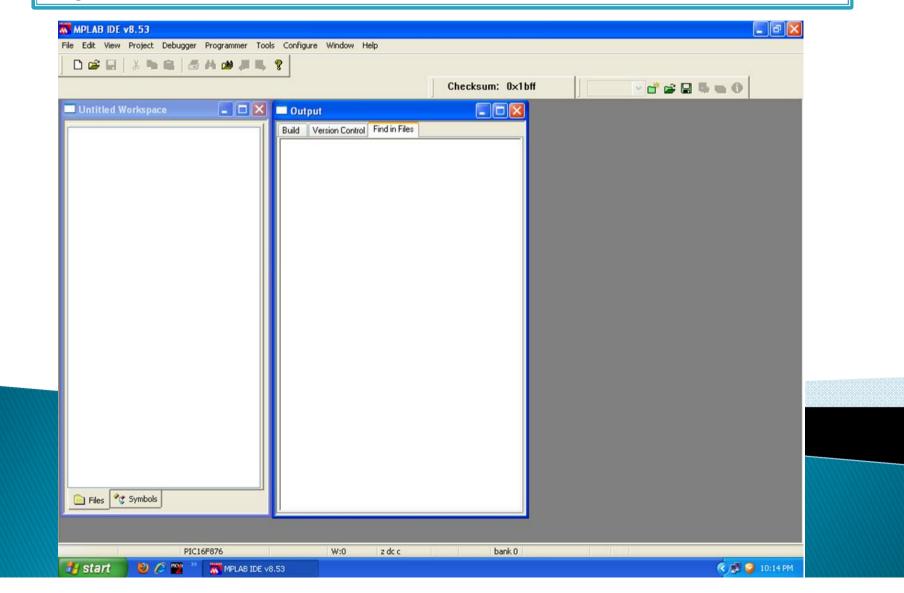
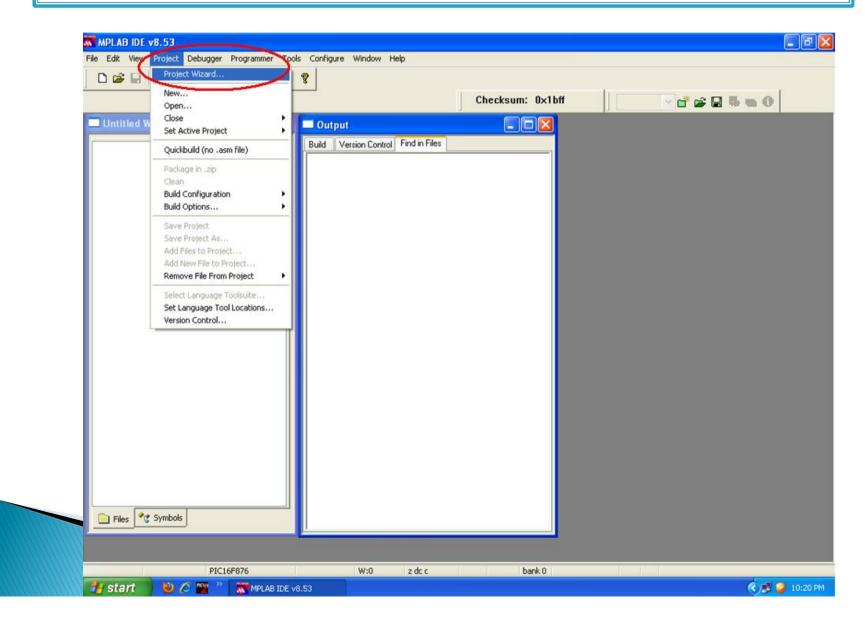
# **MPLAB PROGRAMMING**



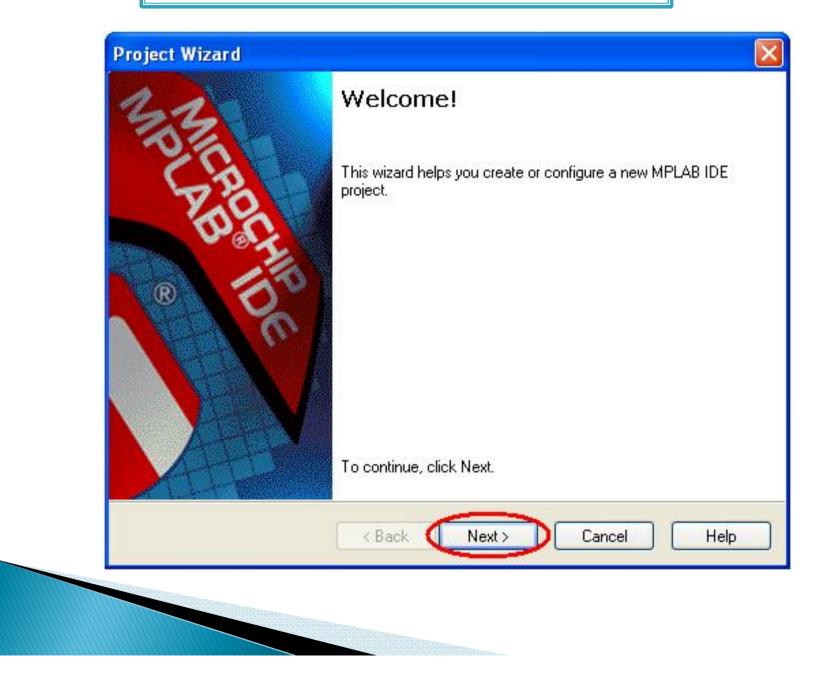
Double click on the icon installed on the desktop after installation or select *Start>Programs>Microchip> MPLAB IDE >MPLAB IDE*. A screen will display the MPLAB IDE logo followed by the MPLAB IDE desktop as in diagram below.



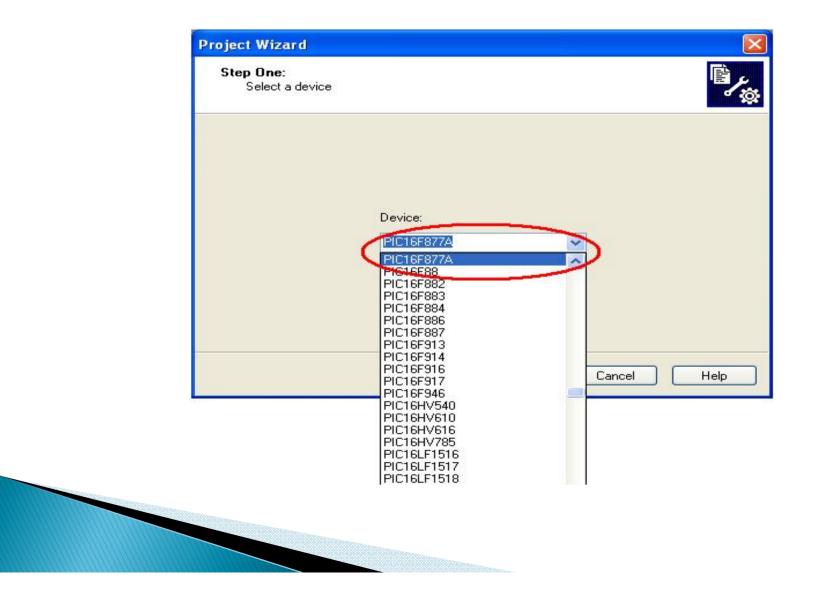
The next step is to create a project using the Project Wizard. A project is the way the files are organized to be compiled and assembled. We Choose *Project>Project Wizard*.



### From the Welcome dialog, click on Next to proceed.



The next dialog (Step One) allows you to select the device. In this example, PIC16F877A was selected from the drop down menu. **Click** *Next*>.



The next step of the Project Wizard is sets up the language tools that are used with this project. Select **"Microchip MPASM Tool suite**" in the Active Tool suite list box. Then select **"MPASM Assembler"** in the Tool suite Contents box. When you are finished, **click** *Next*.

Step Two: Select a langua;	ge toolsuite	
Active Toolsuite:	Microchip MPASM Toolsuite	
Toolsuite Contents		
MPLINK Ubjec	nbler (mpasmwin.exe) v9.36 st Linker (mplink.exe) v4.36 in (mplib.exe) v4.36	
Location		
C:\Program Files\f	Microchip\MPASM Suite\MPASM\/	VIN.exe B
Store tool locati	ions in project	
Help! My Su	ite Isn't Listed!	Show all installe
	< Back Next	

Step three of the project wizard allows user to create new project file.

Create New Project F	ïle	Browse
Reconfigure Active P     Make changes with		
O Save changes to e		
O Save changes to a	nother project file	
		Browse.
		Browse
	<back next=""></back>	Cancel

## Create a folder, a folder named **Project** is first created at Desktop.

	Three: Create a new proje	ect, or reconfigure the active project	?	
	Create New Proj	ect File		Browse
	Save Project	As		? 🗙
	My Docume My Comput My Network	er		
	File name:			Open
	Save as type:	MPLAB IDE Project Files (*.mcp)	~	Cancel
				and the second

Then open the folder, *project*. *Project named project1 can be created by typing* the project name in the column for **"File name"**, and click **"***Save***"**.

	Create New Project File
	Browse
(chi	Save Project As
	Save in: 🗀 PROJECT 🛛 🕑 🕼 📂 🖽 🕶
2	
	File name: project1 Save
	Save as type: MPLAB IDE Project Files (*.mcp)
	Jump to:

Diagram below shown the Project "*project1*" *had been created and the directory*. Click "*Next*>".

Step Three: Create a new project,	or reconfigure the active projec	ct?	
💿 Create New Project	ïle		
C:\Documents and S	ettings\R000[1\Desktop\PR	OJECT\project1 Br	owse
-O Reconfigure Active I	roject		
🔘 Make changes wi	hout saving		
O Save changes to	existing project file		
Save changes to	nother project file		
		Br	owse
	<pre></pre>	Cancel	Н

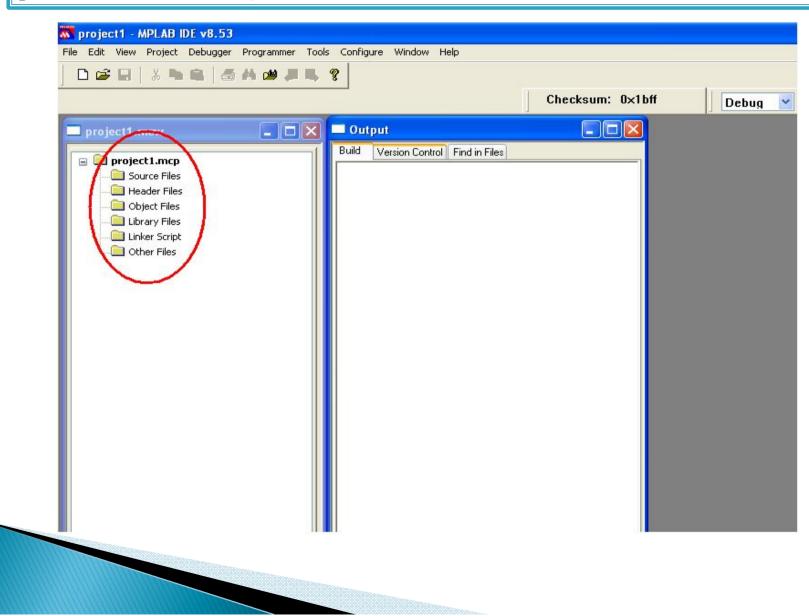
Step four of the project wizard allow user to add existing file to the project, however, for this example, no files will be added. Please click "*Next>" to proceed*.

<b>Step Four:</b> Add existing files to your project	
All Users  All Users Al	Add >> Remove
< Bac	k Next > Cancel He

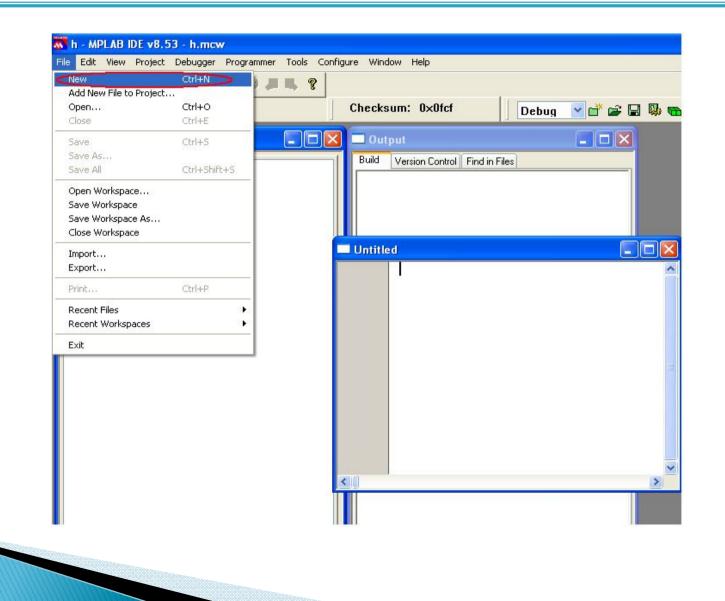
A summary will be shown at the end of project wizard, all the project parameters are shown. Please click "*Finish*" to exit from project wizard.

33	Summary
C.A.	Click `Finish' to create/configure the project with these parameters.
100	Project Parameters
TOY.	Device: PIC16F877A
R 50	Toolsuite: Microchip MPASM Toolsuite
	File: C:\Documents and Settings\R000'1\Desktop\PR0JECT\proje
	A new workspace will be created, and the new project add to that workspace.
	K Back Finish Cancel H

After pressing the *Finish button, review the Project Window on the MPLAB IDE* desktop. It should look like the diagram below. If the Project Window is not open, please select *"View>Project"*.



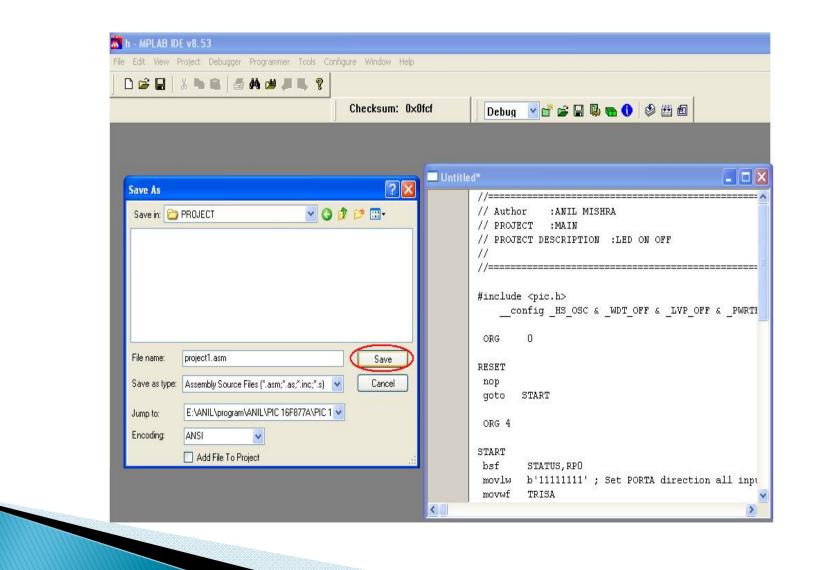
Click "File>New" option. A new window is opened for creating new program. See below.



## After creating program, click "File >Save" option

h - MPLAB IDE v8.53	
File Edit View Project Debugger Programmer Tools Configure Window Help	
New Ctrl+N Add New File to Project	
Open Ctrl+O Checksum: 0×0fcf Debug 🕑 💣 🖨 🖏 📾 🐧	۵ 🕲
Close Ctrl+E	
Save Ctrl+S	
Save As Save All Ctrl+Shift+S	
Save All Ctrl+Shift+S	
Open Workspace Save Workspace Untitled*	
Save Workspace As         //===================================	<u> </u>
// PROTECT ·MAIN	
Import // PROTECT DESCRIPTION TED ON OFF	
Export // //	
Print         Ctrl+P         //===================================	
Recent Files	
Recent Workspaces #include <pic.h> config HS OSC &amp; WDT OFF &amp; LVP OFF &amp; PWRTE ON</pic.h>	
Exit	
ORG D	
RESET	
nop	
goto START	
ORG 4	
START	
bsf STATUS, RPO	
movlw b'11111111'; Set PORTA direction all input	
movwf TRISA	
movlw b'00000000'; Set PORTB direction all output movwf TRISB	1272

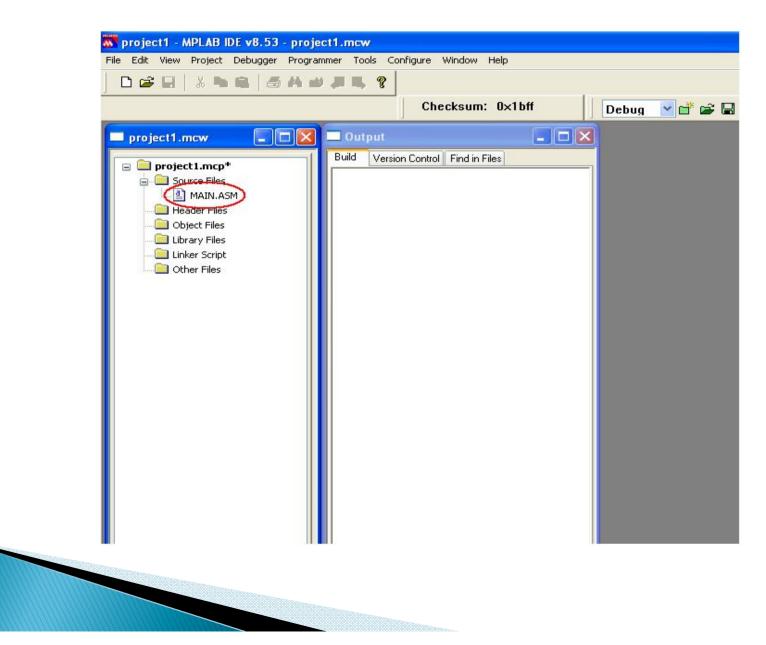
A diagram is shown below, a **Save As** window is opened. Choose a correct folder where file was created, and then click **"Save"**.



In a programming window click right button of mouse, click "Add To Project".

// PROJECT : M	NIL MISHRA AIN RIPTION :LED ON OFF	
//	Close	1
<pre>#include <pic.: config 1</pic.: </pre>	Set Breakpoint Breakpoints	VP_OFF &PWRTE_ON
ORG O	Run To Cursor Set PC at Cursor Center Debug Location	
RESET nop goto START	GoTo GoTo Locator	-
ORG 4	Cut Copy	
START bsf STATU movlw b'111	Paste Delete	_ection all input
movwf TRISA movlw b'000 movwf TRISB bcf STATUS,	Add To Project External DIFF Advanced Bookmarks	ection all output
	Code Folding Former For	
-	Help Properties	_

#### Diagram below shown MAIN.ASM added to the project.



After added the source file, user can open **MAIN.ASM** file in this workspace and try to compile it. Diagram below shown opened **MAIN.ASM** file. To compile, user can go *"Project>Build"* or the build icon (in red circle) on menu bar as shown in diagram below.

	Checksum: 0x1bff	Debug 🕑 🗃 🖨 🗟 👦 🕤 🕸 😁 🗊
project 1.mcp* Source Files MAIN.ASM Header Files Object Files Library Files Uniker Script Other Files	Cutput Build Version Control Find in Files	<pre> Pick  PickWAIN.ASM Pick.Ash Pic</pre>

After build success, a message *Build successful!* will appear in output window like shown in diagram below.

	ug 🔽 🖆 🖨 🖏 📾 🌒 🕸 🖽 🗐 🔄
project1.mcw  project1.mcp*  Source Files  MAIN.ASM Header Files  Object Files  Library Files  Other Files  Other Files	<pre>E:1WAIN.ASM // Author ::ANIL MISHPA // PROJECT ::MAIN // PROJECT DESCRIPTION :LED ON OFF // // finclude <pic.h>config _HS_OSC 4 _WDT_OFF 4 _/ ORG 0 RESET nop goto START ORG 4 START bef STATUS,RP0 movie b'llillill' ; Set PORTA dat movef TRISA</pic.h></pre>