Exercise-2: Study of Keil Micro Vision3 IDE

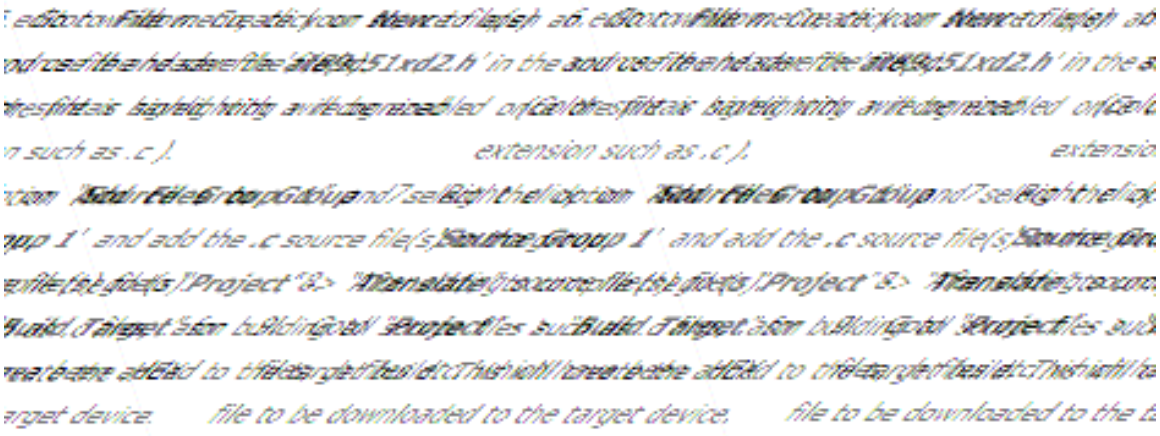
- Difference bw C and embedded C programming
- Data types in Kei lover C
- Memory models in Keil over C
- Pointer extensions in keil over C
- Simulation and Debugging tools in Micro-Vision 3 IDE

Software Development Details

The demo programs have been developed using evaluation version of **Keil uVision 3 IDE and SDCC (Small Device C Compiler).** An In-System Programmer-**Atmel Flip 2.4.2**-has to be used for downloading programs which are built using Keil uVision3 IDE and SDCC. The entire software setup is to be followed before proceeding further.

Creation of New Project in KEILUV3 IDE:

1. Create a project folder before creating project.
2. Open Keil uVision3 IDE software by double clicking on "**Keil uVision 3"** icon
3. Goto **Project** menu select **New Project** and save it after typing a project name in the respective project folder. Click **Save.**
4. **Select device for target** window will open, click on **Atmel** to drop down the menu, then select **AT89C51ED2** and press **OK.** Another window opens asking to add startup files click **No** button, to not to add a "Startup.a51" file.
5. Right click on **Target1** in Project Window & select "**Options for Target 'Target1'**".
   In '**Target**' field select **Xtal(Mhz)**: 11.0592
   Check the box **Use On-chip ROM (0x0-0xFFFF),**
   Check the box **Use On-chip XRAM (0x0-0x1EFF)"**
   In '**Output**' window check the box "**Create HEX File**"



PROGRAM DOWNLOADING

1. Set the slide switch **SW2** to PROG position on the board and press the reset switch **SW1**.
2. Open the Atmel Flip 2.4.2 tool by double clicking on "**Atmel Flip**" icon.
3. Goto "**Device**" option -> "**Select**", select the specific device "**AT89C51ED2**" & press **OK**.
4. Goto "**File**" -> "**Load HEX File**", navigate to desired **.HEX** file of the project.
5. Goto "**Settings**" option -> "**Communication**" -> "**RS232**", a window will open, and make sure that no other application is using COM port. Click on **COM** and select the proper COM port (Eg:COM1), set the baud rate to 115200 and click on **Connect**.
6. In "**Operations Flow**" region, check the options "**Erase**", "**Blank Check**", "**Program**" & "**Verify**".
7. In right most side of the window select the option **BLJB**, set the settings **BSB**, **EB**, **SBV** as **00**, **FF** and **FC** respectively and select the option "**Level 0**" in Device SSB region.

After selecting all the above click on **RUN** in field "**Operations Flow**" and wait until get the status as **finished** on the status bar. If an error occurs during programming then press **SW2** (reset) button and reprogram the device. After programming set the slide switch **SW1** towards RUN position on the board and Press **SW2** (reset) button to execute the program. If the communication error occurs during the programming then close the Atmel Flip 2.4.2 remove the RS232 cable and reinsert the cable and once again program the device. After programming successfully close the Atmel Flip window.

Caution: Do not reset the device during Flash Programming.