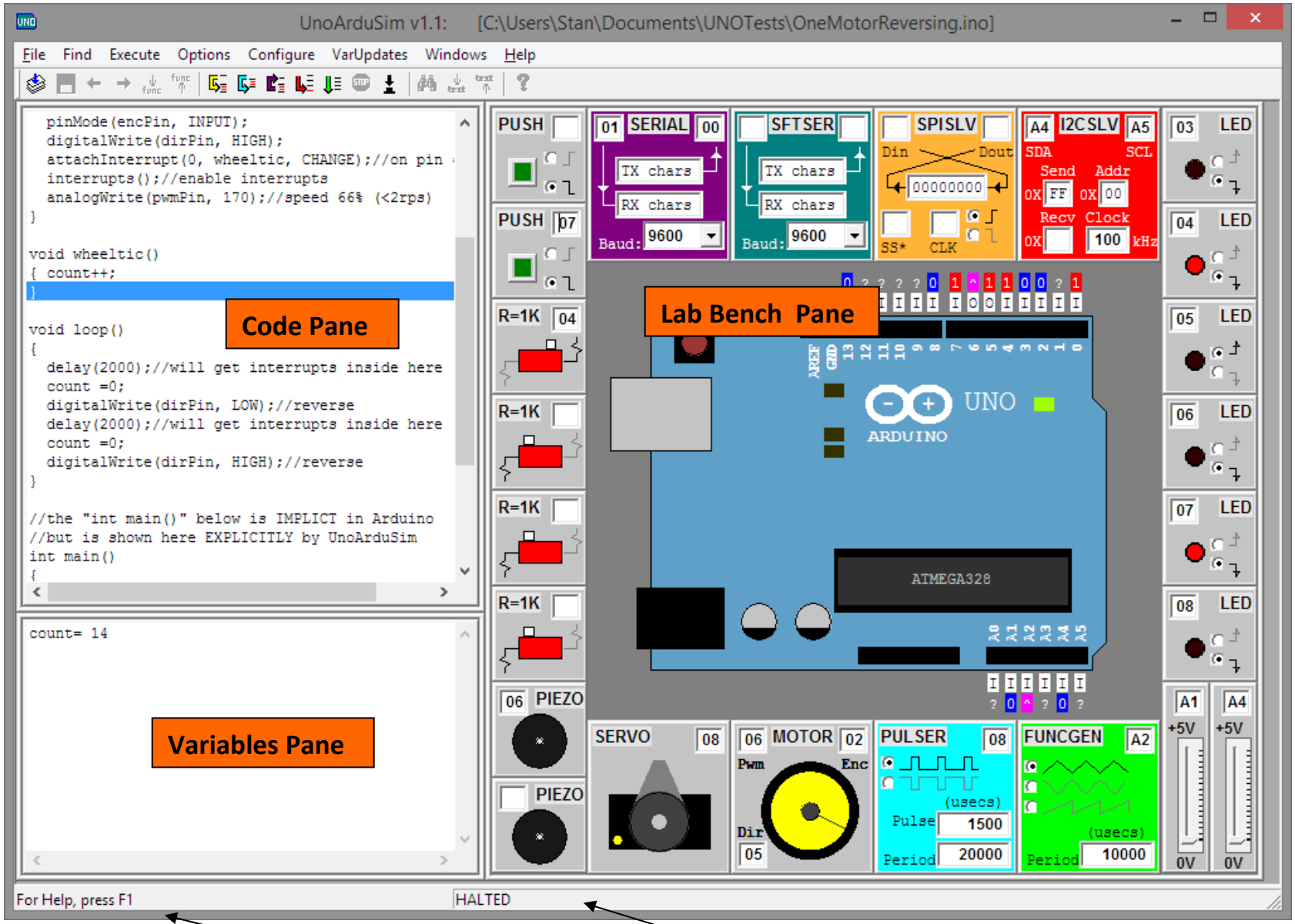
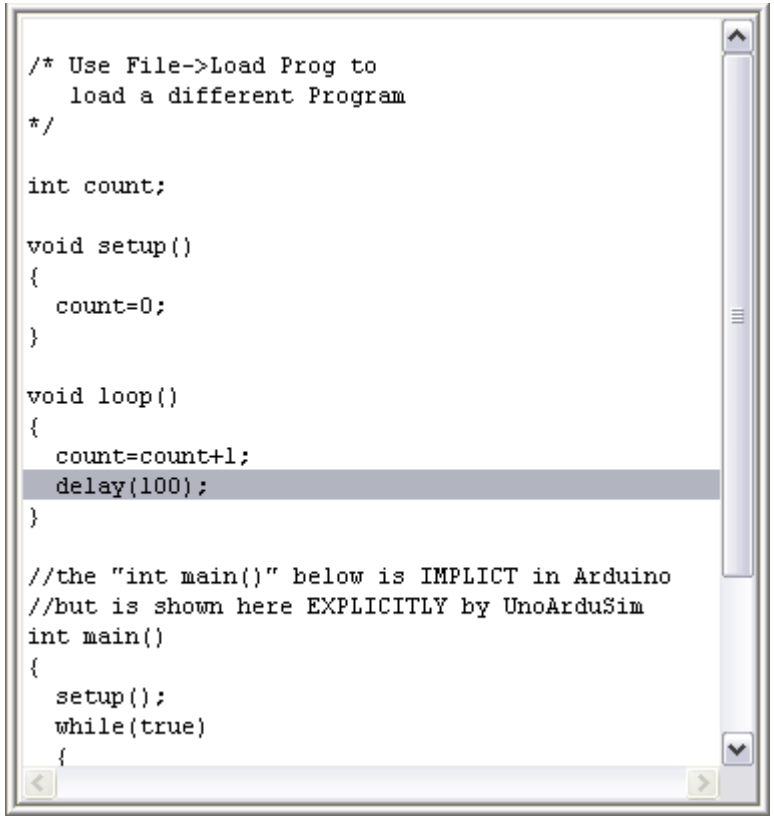
UnoArduSimV1.2 Quick Help



Code Pane



```
/* Use File->Load Prog to
   load a different Program
*/

int count;

void setup()
{
  count=0;
}

void loop()
{
  count=count+1;
  delay(100);
}

//the "int main()" below is IMPLICT in Arduino
//but is shown here EXPLICITLY by UnoArduSim
int main()
{
  setup();
  while(true)
  {
```

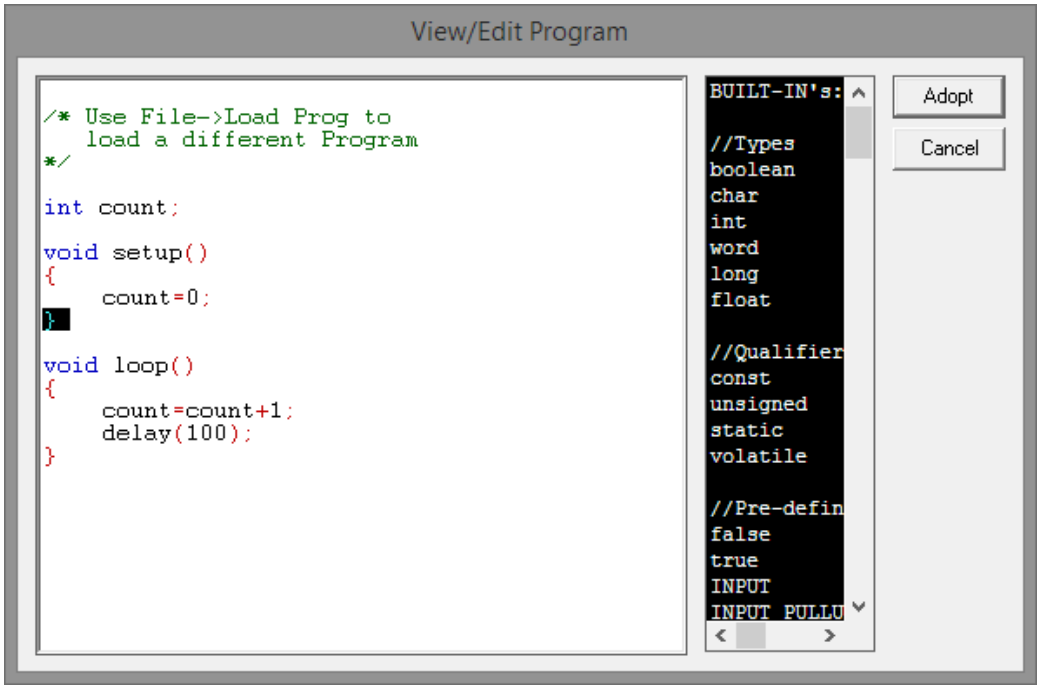
Step or run execution using , , , **or** ..

Click to highlight a line and then click **RunTo** to halt at a specific program line.

Click anywhere then use **PgDn** and **PgUp** or and to jump ,between ***functions,***

Set search text with and then jump to that text using and .
Move between **`#include`**'d files using , .

View/Edit



To open, ***double-click*** on a Code Pane line, or use **File→View/Edit**.,

Will be auto-tab-indent formatted if chosen from **Config→Preferences,**

Find (use **ctrl-F**), **Replace** (use **ctrl-H**), and **Undo** (use **ctrl-Z**),

ctrl-PgDn and **ctrl-PgUp** to jump to next (or previous) empty-line break,

Double-click on a '**{**' or '**}**' brace to find matching brace partner

To add an item (after the caret) from the right-hand list, double that item.

Variables Pane

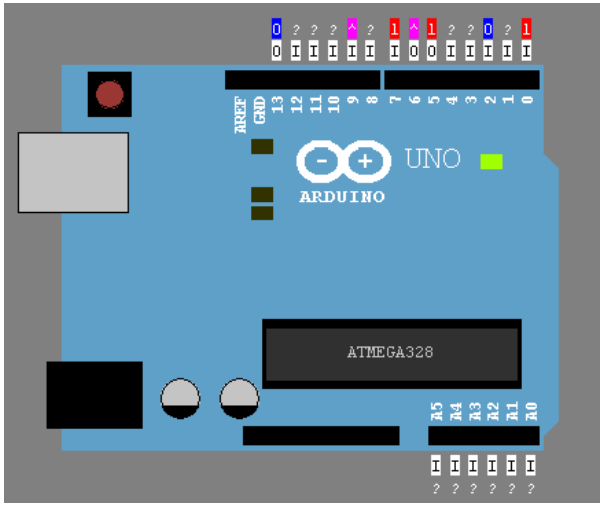
Click on **(+)** to **expand**, or on **(-)** to **collapse** arrays and objects.

PgDn and **PgUp** or  and  allows you to quickly jump between ***variables* .**

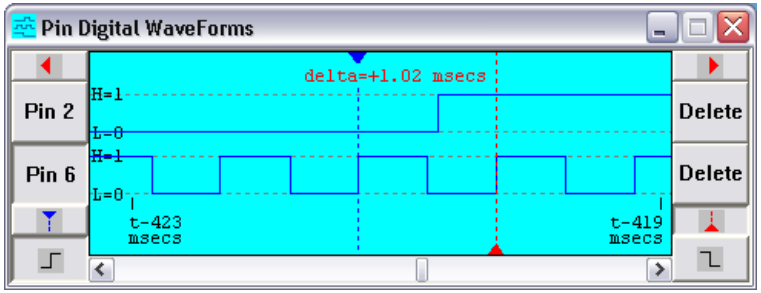
Use the **VarUpdates** menu to control update frequency when **Run**-ning.

Double-click to change any variable to a new value in the middle of (halted) program execution.

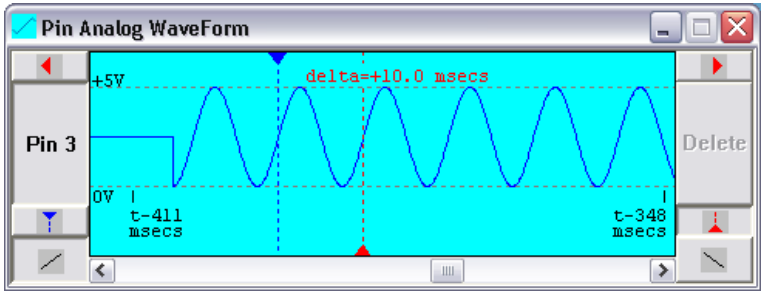
Lab Bench Pane Uno



Left-click any pin to create (or add to) Pin Digital WaveForms.



Right-click any pin to create Pin Analog WaveForm window.



To **ZOOM IN** and **ZOOM OUT** use the mouse wheel, or keyboard shortcuts ***CTRL-up_arrow*** and ***CTRL-down_arrow***.

Lab Bench Pane I/O Devices

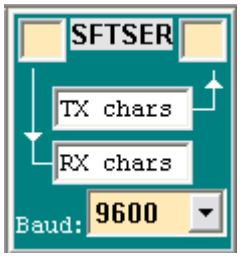
Set numbers and types of each using the **Config→ I/O Devices** menu selection. Set pins using a 2-digit value from 00 to 19.

Serial (SERIAL)

Type one or more characters in the upper (TX chars) edit and ***hit Return***.

Double-click to open ***a larger window for TX and RX characters.***

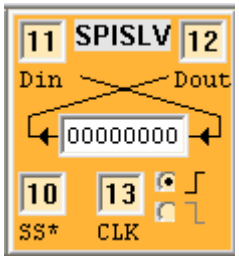
Software Serial (SFTSER)



Type one or more characters in the upper (TX chars) edit and ***hit Retur***

Double-click to open ***a larger window for TX and RX characters.***

SPI Slave



A simple shift-register device

Edge transitions on CLK trigger shifting.

SS low,drives MSB onto Dout.

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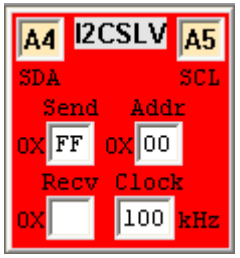
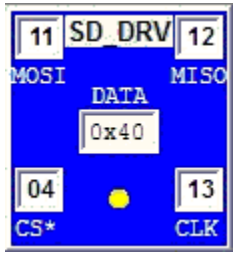
Two-Wire I²C Slave (I2CSLV)



A *slave-mode-only* I2C device.

Double-click *to open* ***a larger window*** to see ***Send and Recv bytes***

SD Disk Drive (SD_DRV)



A small 8Mbyte SD drive driven from SPI signals, and mirrored in an '**SD' *subdirectory*** in the loaded program's directory.

Double-click *to open* ***a larger window*** to see ***Directories, Files,*** *and* ***content***

CS low to activate.

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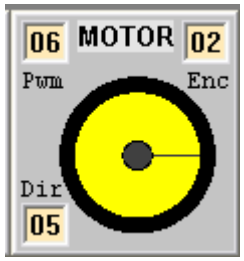
Servo Motor (SERVO)

Accepts pulsed control signals on specified pin.

Use **`#include <Servo.h>`**.

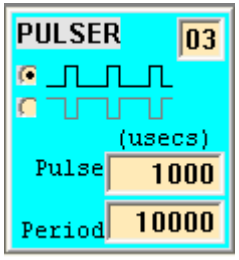
DC Motor (MOTOR)



Accepts PWM signals on Pwm pin, level signal on Dir, and outputs 8 highs and lows per wheel revolution on Enc.

Full speed is approximately 2 revs per second.

Digital Pulser (PULSER)

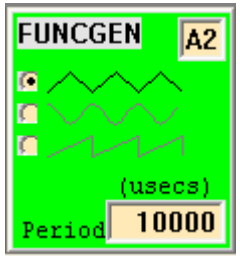


Minimum period 50 microseconds

Min pulse width 10 microseconds.

Choose positive-going pulses (0 to 5V) or negative-going pulses (5V to 0V).

Analog Function Generator (FUNCGEN)



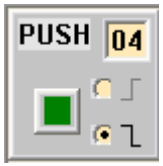
Minimum period is 100 microseconds

Sinusoidal, triangular, or sawtooth waveforms.

Analog Slider

A slider-controlled 0-5V potentiometer.

Push Button (PUSH)



A normally-open momentary pushbutton.

Slide Switch Resistor (R=1K)

A 1 k-Ohm pull-up to +5V, or a 1 k-Ohm pull-down to ground.

Piezoelectric Speaker (PIEZO)

"Listen" to signals on any chosen Uno pin, .

Red LED (LED)

To either ground or to +5V.

Menus

File menu commands:

Load INO or PDE Prog	Allows the user to choose a program file having the selected extension. The program is immediately parsed
View/Edit	Opens the loaded program for viewing/editing.
Save	Save the edited program contents back to the original program file.
Save As	Save the edited program contents under a different file name.
Next (#include) file	Advances the CodePane to display the next `#include`'d file
Previous	Returns the CodePane display to the previous file
Exit	Exits UnoArduSim.

Find menu commands:

Prompt	Click in either the Code Pane or the variables Pane to give it the active focus for this menu's commands.
Find Next Function/Var	Jump to the next Function in the Code Pane (if it has the active focus), or to the next variable in the Variables Pane (if instead it has the active focus).
Find Previous Function/Var	Jump to the previous Function in the Code Pane (if it has the active focus), or to the previous variable in the Variables Pane (if instead it has the active focus).
Set Search Text	Pull up a dialog box to edit your to-be-searched-for text..
Find Next Text	Jump to the next Text occurrence in the Code Pane (if it has the active focus), or to the next Text occurrence in the Variables Pane (if instead it has the active focus).
Find Previous Text	Jump to the previous Text occurence in the Code Pane (if it has the active focus), or to the previous Text occurrence in the Variables Pane (if instead it has the active focus).

Execute menu commands:

 Step Into (F2)	Steps execution forward by one instruction, or *into a called function*.
 Step Over (F4)	Steps execution forward by one instruction, or *by one complete function call*.
 Step Out Of	Advances execution by *just enough to leave the current function*.
 Run To	Runs the program, *halting at the desired program line* -- you must first click to highlight a desired program line before using Run To.
 Run	Runs the program.
 Halt	Halts program execution (*and freezes time*).
 Reset	Resets the program (all value-variables are reset to value 0, and all pointer variables are reset to 0x0000).
Animate	Automatically steps consecutive program lines *with added artificial delay* and highlighting of the current code line.
Slow Motion	Slows time by a factor of 10.

Options menu commands:

Step Over Structors/Operators	Fly right through constructors, destructors, and operator overload function during any stepping (i.e. it will not stop inside these functions).
Register-Allocation Modelling	Assign function locals to free ATmega registers instead of to the stack..
Error on Uninitialized	Flag as a Parse error anywhere your program attempts to use a variable without having first initialized its value.
Show Program Download	Show program download to the Uno board (with attendant delay).
Bigger Font	Use the next larger font size for the Code Pane, Variables Pane, and View/Edit window.

Config menu commands:

I/O Devices	Choose the type(s), and numbers, of desired I/O devices. Save or Load I/O devices to/from a text file.
Preferences	Set preferences for auto-formatting of source program, allowing Expert syntax, enforcing of array bounds, Uno board version, and TWI buffer length (for I2C devices).

VarUpdates menu commands:

Allow Reduction	Allow reduced frequency of display updates in the Variables Pane to avoid flicker or reduce CPU load – then values shown are only updated periodically, ***but also whenever the program is halted***.
Minimal Updates	Only refresh the variables Pane display 4 times per second.
HighLight Updates	Highlight the last-changed variable value (will cause scrolling).

Windows menu commands:

Serial Monitor	Add Serial IO device (if none) and pull up a larger Serial monitor TX/RX text window.
Restore All	Restore all minimized child windows.
Prompt	Left-Click or Right-Click an Uno Pin to create a Waveform window:
Pin Digital Waveforms	Restore a minimized Pin Digital Waveforms window.
Pin Analog Waveform	Restore a minimized Pin Analog Waveform window.

Help menu commands:

Quick Help File	Opens the UnoArduSim_QuickHelp PDF file.
Full Help File	Opens the UnoArduSim_FullHelp PDF file.
Bug Fixes	View significant bug fixes since the previous release..
Change/Improvements	View significant changes and improvements since the previous release.
About	Displays version, copyright, bug report email