



AutoCAD® Self-paced Learning Modules
AutoCAD Customization
Module 9
Pull Down and Cursor Menus

Why is it **Important** for you to learn this task?

RATIONALE:

The pull-down menu devices, provide a quick method to input commands and parameters.

If you understand the menu file syntax and how the file is structured, you can write your own menus to suit your particular drawing requirements. Using your own custom menus will increase the speed and accuracy of your drawing.

Here is what you will be able to do when you complete each **Step** of this learning activity package:

OBJECTIVE(S):

1. Describe the layout and operation of the pull-down sections in a menu file.
Describe the layout and operation of the Helpstrings section in a menu file.
Describe the layout and operation of the Accelerators section in a menu file.
Create a menu file containing pull-down sections, Helpstring section and Accelerators section.

To show that you have **Mastered** this task, here is what you will be asked to do:

PERFORMANCE EVALUATION:

1. Complete Self-Test No. 1 with 100% accuracy.
2. Complete Lab Exercise L0860-01 with 100% accuracy.

OBJECTIVE NO. 1

When you complete this objective you will be able to:

- Describe the layout and operation of the pull-down sections in a menu file.
- Describe the layout and operation of the Helpstrings section in a menu file.
- Describe the layout and operation of the Accelerators section in a menu file.
- Create a menu file containing pull-down sections, Helpstring section and Accelerators section.

Complete each of the learning activities listed below.

LEARNING ACTIVITIES

DO the following things:

USE the following resources:

- | | |
|-----------------------------------------------------------------------|---------------------------------|
| 1. Read Information Sheet No. 1. | Pages 3 to 7 of this module |
| 2. Complete Self-Test No. 1. | Page 8 of this module. |
| 3. Check your answers to Self-Test No. 1 and correct any errors. | Page 12 of this module. |
| 4. Complete Lab Exercise L0860-01. | Pages 9 to 11 of this module. |
| 5. Check your answers to Lab Exercise L0860-01 and correct any errors | Pages 13 and 14 of this module. |

INFORMATION SHEET NO. 1

PULL-DOWN MENUS

Pull-down menus are defined in the menu sections POP1 through POP499. The *cursor menu* is defined in the menu section POP0.

Each pull-down menu is a separate section in the menu file.

The pull-down *menu bar* is located at the top of the screen. The maximum number of pull-downs that can be displayed in the menu bar, is 16. Most displays provide a maximum of 80 characters for the menu bar, so the average title length should be kept below 5 characters if all 16 pull-down menu areas are to be used. The first line in the menu section defines the menu bar title. Swapping pull-down menus is covered in a later module.

The cursor menu is displayed at or near the crosshairs on the graphics screen and is displayed through the \$P0=* menu command which should be included in the Buttons/Auxiliary menu.

Pull-down and cursor menu items behave just like items in other menu sections, and the macros are defined in the same way.

The pull-down menus usually appear directly below their associated menu bar titles. The rightmost menus will shift to the left to display long menu item labels.

Do not leave blank lines in a pull-down menu, the menu items below the blank line will not display.

To display a solid separator line, the full width of the pull-down, include the menu item label [--] in the menu file.

A blank line should be included at the end of each POP n section in the menu file to eliminate overlaying problems.

An *alias* can be defined for each POP n section using the label ** <alias> immediately following the menu section label.

Name tags immediately preceding the menu item label can be used in POP n sections. The name tags may contain alphanumeric and underscore (_) characters. The function of name tags is explained in module A-840.

CASCADING SUBMENUS

The pull-down and cursor menus are displayed as cascading menus. The special characters -> and <- are used to control this as follows:

-> Indicates the beginning of a submenu.

<- Indicates the last menu item in a submenu.

<<-... Indicates the last menu item in a submenu and also in its parent menu. (One <- is required for each parent menu to be terminated.)

You may include as many submenu levels as you wish.

SPECIAL CHARACTERS USED IN PULL-DOWN MENUS

- When used as a menu item label, displays a separator line the full width of the menu.
- > Indicates the beginning of a submenu.
- <- Indicates the last menu item in a submenu.
- <<-... Indicates the last menu item in a submenu and also in its parent menu. (One <- is required for each parent menu to be terminated.)
- & Specifies the following character to be a menu accelerator key in a pull-down menu label. (eg. &Copy assigns the character 'C' as an accelerator key in the menu label.)
- \t Specifies all label text to the right of these characters is located on the right side of the menu.

EXAMPLES

Example No. 1

```

***POP2
**EDIT
ID_MnEdit    [&Edit]
ID_U         [&Undo\tCtrl+Z]^C^C_u
ID_Redo      [&Redo\tCtrl+Y]^C^C_redo
            [--]
ID_Cutclip   [Cu&t\tCtrl+X]^C^C_cutclip
ID_Copyclip  [&Copy\tCtrl+C]^C^C_copyclip
ID_Copybase  [Copy with &BasPoint]^C^C_copybase
ID_Copylink  [Copy &Link]^C^C_copylink
ID_Pasteclip [&Paste\tCtrl+V]^C^C_pasteclip
ID_Pastebloc [Paste as Bloc&k]^C^C_pasteblock
ID_PasteHnk  [Paste as &Hyperlink]^C^C_pasteashyperlink
ID_Pasteorig [Paste to Original Coord&dinates]^C^C_pasteorig
ID_Pastesp   [Paste &Special...]^C^C_pastespec
ID_Erase     [Cle&ar\tDel]^C^C_erase
            [--]
ID_Links     [&OLE Links...]^C^C_olelinks
            [--]
ID_TextFind  [&Find...]^C^C_find
    
```

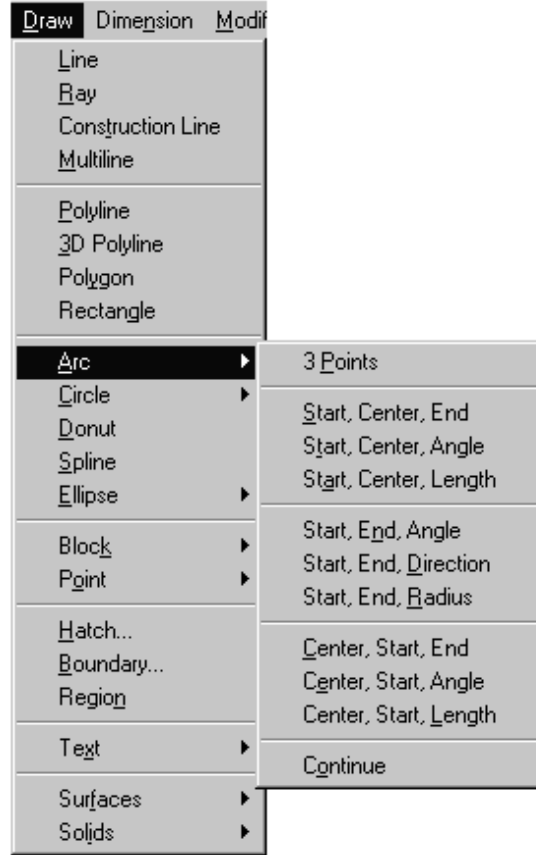
Edit	View	Insert	Format	Tools	Draw
U <u>ndo</u>					Ctrl+Z
R <u>edo</u>					Ctrl+Y
C <u>ut</u>					Ctrl+X
C <u>opy</u>					Ctrl+C
C <u>opy with Base Point</u>					
C <u>opy Link</u>					
P <u>aste</u>					Ctrl+V
P <u>aste as Block</u>					
P <u>aste as Hyperlink</u>					
P <u>aste to Original Coordinates</u>					
P <u>aste Special...</u>					
C <u>lear</u>					Del
OLE Links...					
Find...					

{This example shows the POP2 menu section on the left and the resulting pull-down menu display on the right. The menu section is given the alias **EDIT. The first line in the menu is the menu bar title. Each menu item has a name tag (eg. ID_Redo) which allows you to link helpstrings and accelerator keys (covered in a later in this module) to the menu item. In the menu item label for ID_Redo, the '&' preceding the 'R' assigns that character to be a menu accelerator key. Notice on the left, the 'R' in Redo is underscored to signify this. When the menu is displayed, you can go straight to the menu item by entering 'R' on the keyboard. Notice how the text to the right of the characters '\t' is pushed over to the right side of the menu. The text 'Ctrl+Y' is for information only, it does not specify the accelerator key, this is done in the Accelerator menu section. Note the separator lines resulting from the '--]' menu item labels.}

Example No. 2

```

***POP7
**DRAW
ID_MnDraw      [&Draw]
ID_Line        [&Line]^C^C_line
ID_Ray         [&Ray]^C^C_ray
ID_Xline       [Cons&truction Line]^C^C_xline
ID_Mline       [&Multiline]^C^C_mline
                [--]
ID_Pline       [&Polyline]^C^C_pline
ID_3dpoly      [&3D Polyline]^C^C_3dpoly
ID_Polygon     [Pol&ygon]^C^C_polygon
ID_Rectang     [Rectan&gle]^C^C_rectang
                [--]
ID_MnArc       [->&Arc]
ID_Arc3point   [3 &Points]^C^C_arc
                [--]
ID_ArcStCeEn   [&Start, Center, End]^C^C_arc \_c
ID_ArcStCeAn   [S&tart, Center, Angle]^C^C_arc \_c \_a
ID_ArcStCeLe   [St&art, Center, Length]^C^C_arc \_c \_l
                [--]
ID_ArcStEnAg   [Start, E&nd, Angle]^C^C_arc \_e \_a
ID_ArcStEnDi   [Start, End, &Direction]^C^C_arc \_e \_d
ID_ArcStEnRa   [Start, End, &Radius]^C^C_arc \_e \_r
                [--]
ID_ArcCeStEn   [&Center, Start, End]^C^C_arc \_c
ID_ArcCeStAn   [C&enter, Start, Angle]^C^C_arc \_c \_a
ID_ArcCeStLe   [Center, Start, &Length]^C^C_arc \_c \_l
                [--]
ID_ArcContin   [<-C&ontinue]^C^C_arc ;
ID_MnCircle    [->&Circle]
ID_CircleRad   [Center, &Radius]^C^C_circle
    
```



Cont'd.....

{This example shows the POP7 menu section and demonstrates the use of cascading submenus. The menu item label for any item that has a submenu, starts with the characters -> (eg. '[->&Arc]'). Note the triangle on the right side of the menu for these items. There are no macros associated with these submenu headers. When you select the 'Arc' item, the submenu is displayed as shown. In the menu file, the end of the submenu is specified with the characters <- (eg. [<-C&ontinue]).

HELPSTRINGS

Helpstrings are descriptive messages that appear in the status line when a menu item is chosen from a pull-down menu or a toolbar. The descriptive text string is specified in the Helpstrings section of the menu file.

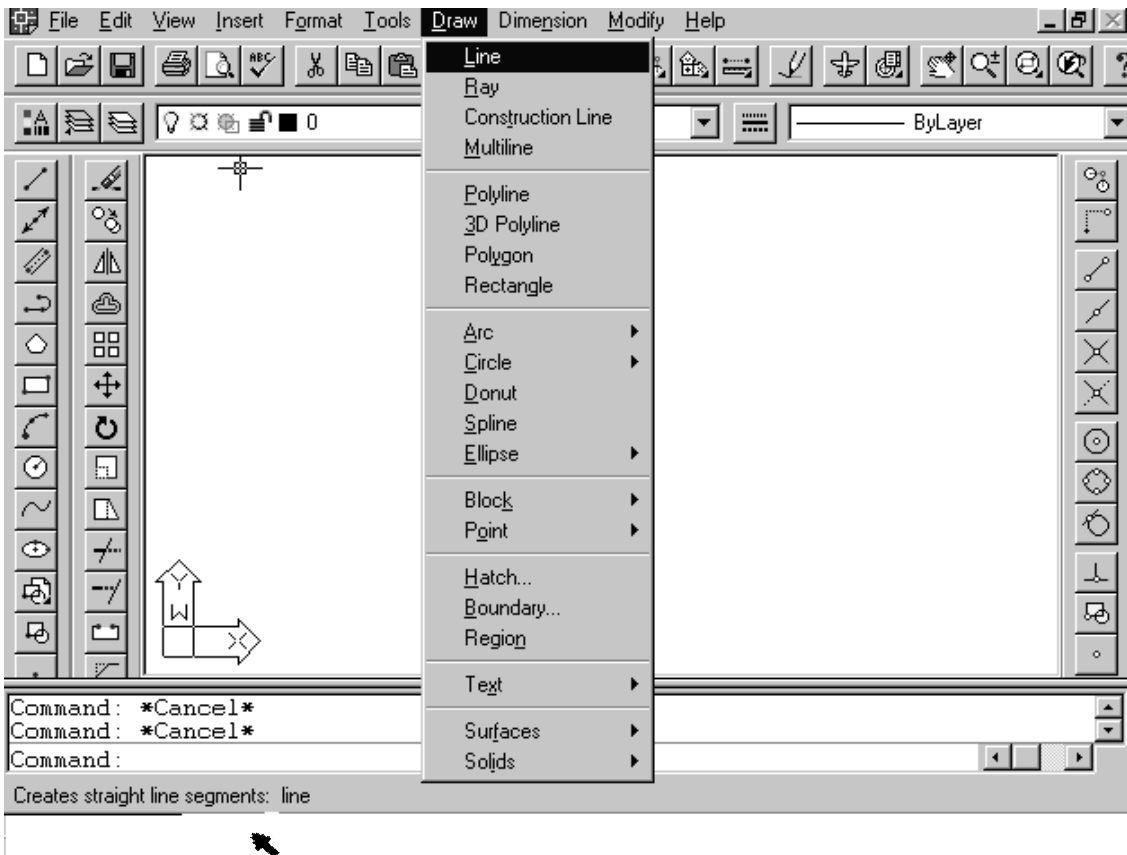
When the cursor is positioned over a menu item, AutoCAD searches in the Helpstring section for a name tag corresponding to the name tag of the selected item. If one is found, the text string within the menu item label is displayed in the status line.

EXAMPLES

Example No. 1

```
***POP7
**DRAW
ID_MnDraw    [&Draw]
ID_Line      [&Line]^C^C_line
ID_Ray       [&Ray]^C^C_ray
ID_Xline     [Cons&truction Line]^C^C_xline
ID_Mline     [&Multiline]^C^C_mline
ID_Pline     [--] [&Polyline]^C^C_pline
.....
```

```
***HELPSTRINGS
ID_Line      [Creates straight line segments: line]
ID_Ray       [Creates a semi-infinite line: ray]
ID_Xline     [Creates an infinite line: xline]
ID_Mline     [Creates multiple parallel lines: mline]
ID_Pline     [Creates two-dimensional polylines: pline]
```



{This example shows a portion of the POP7 and HELPSTRINGS menu sections. If you select the LINE command from the Draw pull-down, AutoCAD searches the Helpstrings section for an item with the same name tag. If a match is found the text within the menu item label is displayed in the status line as shown above.}

ACCELERATOR KEYS

User defined accelerator keys can be specified in the Accelerators section.

Two formats can be used in this section. In the first, a name tag is used followed by an item label specifying the accelerator key sequence. If the key sequence is entered AutoCAD looks for a menu item with the same name tag and if found it executes that menu item.

The second format includes an item label specifying the accelerator key sequence followed by a command sequence.

EXAMPLES

Example No. 1

```
***ACCELERATORS
ID_CircleRad      [SHIFT+CONTROL+"C"]
ID_Viewres        [SHIFT+CONTROL+"V"]
[CONTROL+"U"]^C^Cddunits
[SHIFT+CONTROL+"P"]^C^Czoom previous
```

{This example demonstrates the two methods of defining accelerator keys. If you hold down the SHIFT, CONTROL, and C keys, AutoCAD will search the Pull-down and Toolbar sections for a menu item with the label 'ID_CircleRad'. If found it will execute that item. If you hold down the CONTROL and U keys, AutoCAD will enter a double cancel followed by the DDUNITS command.}

SELF-TEST NO. 1

DIRECTIONS

1. Answer the following questions.
2. Compare your answers to the enclosed answer key.
3. If you disagree with any of the answers, review the learning material and/or check with your instructor.
4. If no problems arise continue with the next step.

1. A maximum of _____ pull-down menus can be displayed in the menu bar.
2. What is the name of the menu section that defines the pull-down menu on the left? _____
3. What is the name of the menu section that defines the cursor menu? _____
4. Where is the cursor menu displayed?

5. The menu accelerator key is the character following a ___ in the menu item label.
6. What does the line [--] in a pull-down menu display?

7. The special characters _____ indicate the beginning of a cascading submenu.
8. What do the following special characters indicate?
<<- _____
9. If you assign an alias to a POP n section, the alias name must be preceded by _____ .
10. Indicate the menu command required to display the cursor menu.

11. You should leave a blank line at the end of each pull-down submenu to eliminate _____ problems.
12. Helpstrings are descriptive messages that appear in the _____ _____ when a menu item is chosen from a pull-down menu or a toolbar.
13. A menu item and its corresponding helpstring must have the same _____ _____.
14. Specify the menu code required to match the control sequence ^C^CWBLOCK to the accelerator keys SHIFT, CONTROL, and W.

LAB EXERCISE NO. 1

Lab Exercise L0860-01

Name: _____

Date: _____

Description

1. Edit the menu file, MENUADV.MNU, you created in Module A-850 and add the following menus:

a) BUTTONS3 menu

Button 2 {display cursor menu}

b) AUX3 menu

Button 2 {display cursor menu}

c) Pull-down menu POP0 {cursor menu. **Include name tags in this section. eg 'ID_snaptoggle'**}

TOGGLE {Alias}

MODES {title}

SNAP {toggle snap mode}

GRID {toggle grid mode}

ORTHO {toggle ortho mode}

TABLET {toggle tablet mode}

COORDINATES {toggle coordinate display}

PRINTER {toggle printer}

VIEWPORTS {change active viewport}

ISOPLANE {set next isoplane}

d) Pull-down menu POP1 {**include name tags in this section. eg. 'ID_arcscse'**}

PULL_DRAW {Alias}

DRAW {menu bar title}

LINE: {enter repeating LINE command}

CIRCLE: {enter repeating CIRCLE command}

ARC cascade> 3-POINT {enter ARC command, allow 3 input}

C.S.E. {enter ARC command, center, start, end}

C.S.A. {enter ARC command, center, start, angle}

FILLET {enter FILLET command, load **screen** submenu
FILL}

Lab Exercise L0860-01

e) Pull-down menu POP2 **{you do not have to include name tags for this part of the lab}**

PULL_LAYER				{Alias}	
LAYER SET	cascade>	FLOOR BASEMENT LOT ELEVATION	cascade>	NORTH SOUTH EAST WEST	{title} {one pick to set the active layer or create it if the layer does not exist}
COLOR	cascade>	RED GREEN BLUE MAGENTA			{one pick for layer <i>color</i> , user input for layer name}
FREEZE	cascade>	FLOOR BASEMENT LOT ELEVATION	cascade>	NORTH SOUTH EAST WEST	{one pick to <i>freeze</i> layer}
THAW	cascade>	FLOOR BASEMENT LOT ELEVATION	cascade>	NORTH SOUTH EAST WEST	{one pick to <i>thaw</i> layer}

f) HELPSTRINGS menu **{include the appropriate name tags as required}**

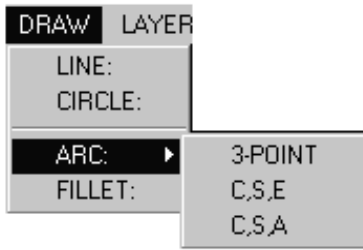
Define suitable helpstrings for the menu items in POP0 and POP1 sections.

g) ACCELERATORS menu **{include the appropriate name tags as required}**

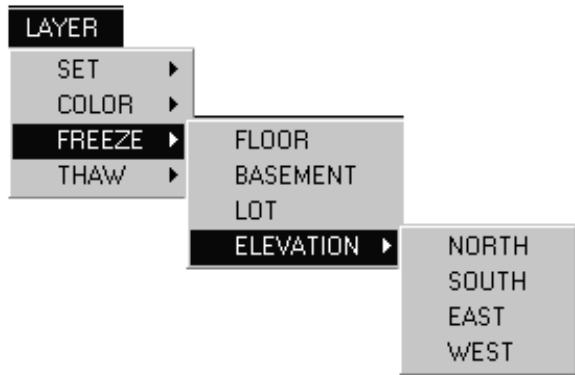
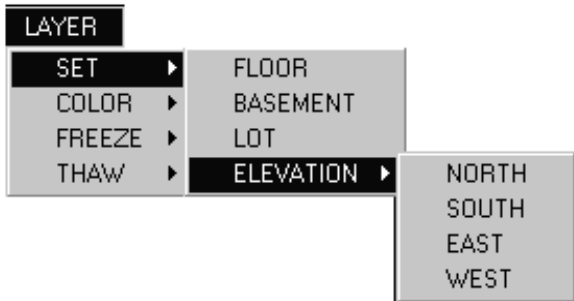
CONTROL, N	{enter NEW command}
SHIFT, CONTROL, V	{enter VIEWRES command, set to 10000}
SHIFT, CONTROL, C	{match to menu item CIRCLE: in POP1 menu}
CONTROL, A	{match to menu item C,S,A in POP1 menu}

2. When displayed, your menus should appear as shown on the next page.
3. Load your menu into a drawing and test it. Edit the file and correct any errors.

Lab Exercise L0860-01



- SNAP
- GRID
- ORTHO
- TABLET
- COORDINATES
- PRINTER
- VIEWPORTS
- ISOPLANE



ANSWER KEY

SELF-TEST # 1

1. A maximum of **16** pull-down menus can be displayed in the menu bar.
2. What is the name of the menu section that defines the pull-down menu on the left? **POP1**
3. What is the name of the menu section that defines the cursor menu? **POP0**
4. Where is the cursor menu displayed?

At, or near, the crosshairs on the graphics screen

5. The menu accelerator key is the character following a **&** in the menu item label.
6. What does the line [--] in a pull-down menu display?

A solid separator line, the full width of the pull-down

7. The special characters -> indicate the beginning of a cascading submenu.
8. What do the following special characters indicate?

<<- The last menu item in a submenu and in its parent menu

9. If you assign an alias to a POP_n section, the alias name must be preceded by ******.
10. Indicate the menu command required to display the cursor menu.

\$P0=*

11. You should leave a blank line at the end of each pull down submenu to eliminate **overlying** problems.
12. Helpstrings are descriptive messages that appear in the **status line** when a menu item is chosen from a pull-down menu or a toolbar.
13. A menu item and its corresponding helpstring must have the same **name tag**.
14. Specify the menu code required to match the control sequence **^C^CWBLOCK** to the accelerator keys **SHIFT, CONTROL, and W**.

[SHIFT+CONTROL+"W"]^C^Cwblock

LAB EXERCISE No. 1 - L0860-01 cont'd.

```
[GREEN]^c^c-layer c green \;
[BLUE]^c^c-layer c blue \;
[<-MAGENTA]^c^c-layer c magenta \;
[->FREEZE]
[FLOOR]^c^c-layer f floor;;
[BASEMENT]^c^c-layer f basement;;
[LOT]^c^c-layer f lot;;
[->ELEVATION]
[NORTH]^c^c-layer f north;;
[SOUTH]^c^c-layer f south;;
[EAST]^c^c-layer f east;;
[<-<-WEST]^c^c-layer f west;;
[->THAW]
[FLOOR]^c^c-layer t floor;;
[BASEMENT]^c^c-layer t basement;;
[LOT]^c^c-layer t lot;;
[->ELEVATION]
[NORTH]^c^c-layer t north;;
[SOUTH]^c^c-layer t south;;
[EAST]^c^c-layer t east;;
[<-<-WEST]^c^c-layer t west;;

//
// Start of Helpstrings menus
//
***HELPSTRINGS
ID_snaptoggle [Toggles the Snap grid ON/OFF]
ID_gridtoggle [Toggles the Grid ON/OFF]
ID_orthtoggle [Toggles the Orth ON/OFF]
ID_tabtoggle [Toggles the tablet ON/OFF]
ID_cordtoggle [Toggles the Coords ON/OFF]
ID_printtoggle [Toggles the printer echo ON/OFF]
ID_viewtoggle [Changes current viewpoint]
ID_isotoggle [Changes to next isometric plane]
ID_line [Creates straight line segments.]
ID_circle [Creates a circle.]
ID_arc3p [Creates a 3point arc]
ID_arccse [Creates an arc using center, start, end]
ID_arccsa [Creates an arc using center, start, angle]
ID_fillet [Displays screen menu Fillet]

//
// Start of Accelerators menu
//
***ACCELERATORS
[CONTROL+"N"]^C^Cnew
[SHIFT+CONTROL+"V"]^C^Cviewres y 10000
ID_circle [SHIFT+CONTROL+"C"]
ID_arccsa [CONTROL+"A"]
```