

New User Commands in Dyalog v18.2

Rich Park



Overview

`]OUTPUT.View`

`]WS.Names`

`]TOOLS.APLCart`

`]OUTPUT.Repr`

`]EXPERIMENTAL.Get`



Overview

`]OUTPUT.View`

`]WS.Names`

`]TOOLS.APLCart`

`]OUTPUT.Repr`

`]EXPERIMENTAL.Get`



]OUTPUT.View



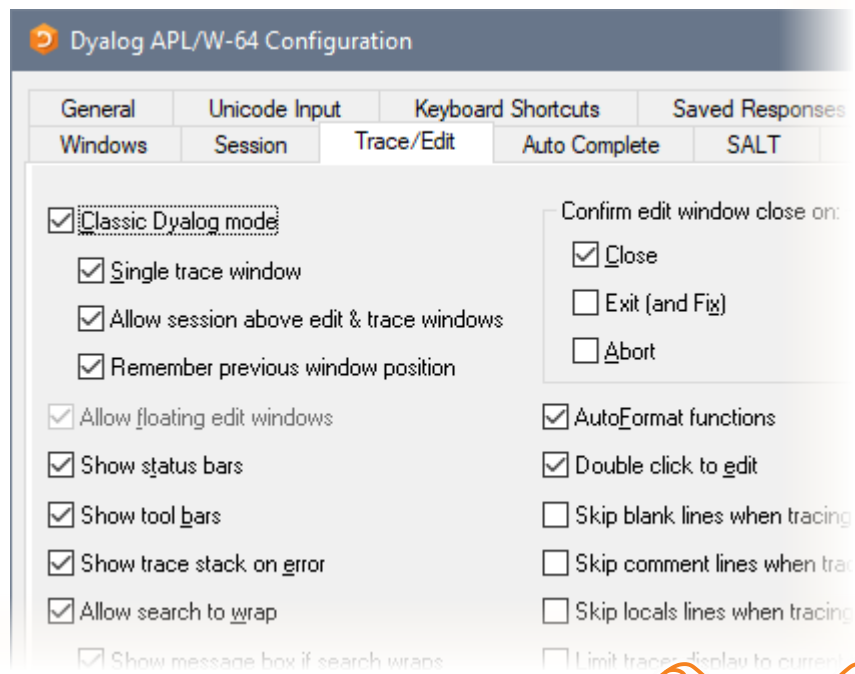
]OUTPUT.View

- ◆ Classic window mode



]OUTPUT.View

Classic window mode



]OUTPUT.View

- ◆ Classic window mode
- ◆ Inspect long output



]OUTPUT.View

- Classic window mode
- Inspect long output
]rows on



]OUTPUT.View

- Classic window mode
- Inspect long output

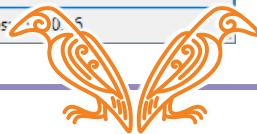
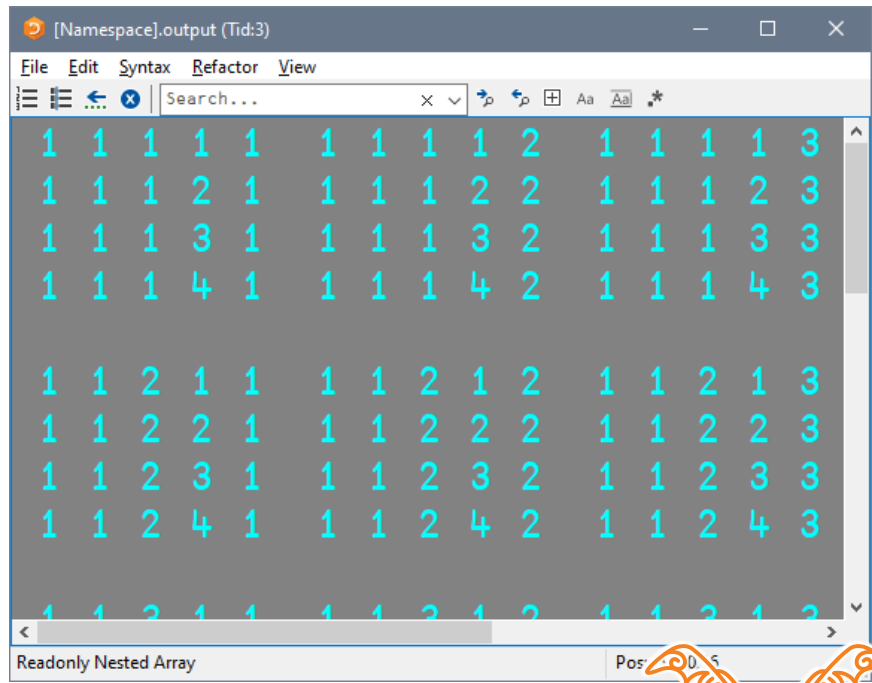
]view 115



]OUTPUT.View

- Classic window mode
- Inspect long output

]view 115



]OUTPUT.View

- ❖ Classic window mode
- ❖ Inspect long output
- ❖ Snapshot an APL item



]OUTPUT.View

- Classic window mode
- Inspect long output
- Snapshot an APL item
`var←'oldvalue'`



]OUTPUT.View

- Classic window mode
- Inspect long output
- Snapshot an APL item

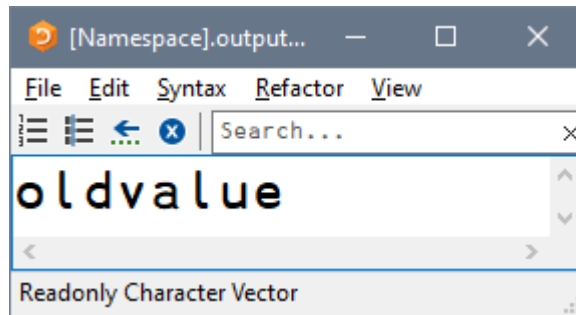
```
var←'oldvalue'  
]view var
```



]OUTPUT.View

- Classic window mode
- Inspect long output
- Snapshot an APL item

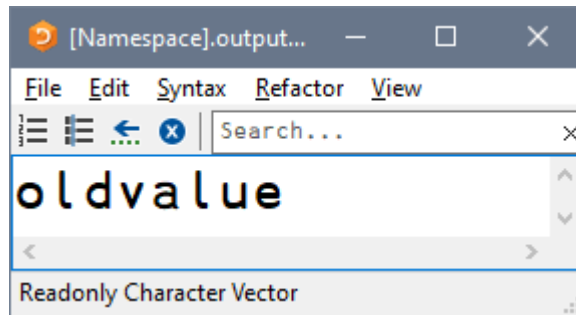
```
var←'oldvalue'  
]view var
```



]OUTPUT.View

- Classic window mode
- Inspect long output
- Snapshot an APL item

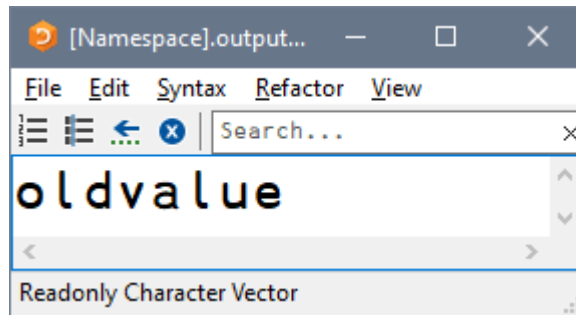
```
var←'oldvalue'  
]view var  
(3↑var)←'new'
```



]OUTPUT.View

- Classic window mode
- Inspect long output
- Snapshot an APL item

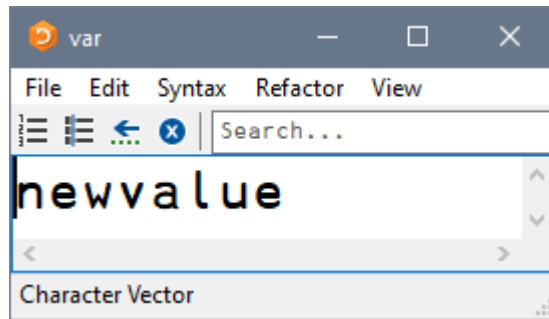
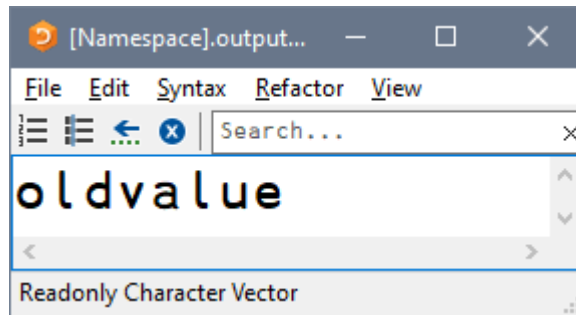
```
var←'oldvalue'  
]view var  
(3↑var)←'new'  
)ed var
```



]OUTPUT.View

- Classic window mode
- Inspect long output
- Snapshot an APL item

```
var←'oldvalue'  
]view var  
(3↑var)←'new'  
)ed var
```



]OUTPUT.View

- ❖ Classic window mode
- ❖ Inspect long output
- ❖ Snapshot an APL item
- ❖ Settings:]Box -view=



]OUTPUT.View

- ❖ Classic window mode
- ❖ Inspect long output
- ❖ Snapshot an APL item
- ❖ Settings:]Box -view=
]box on -v=max



]OUTPUT.View

- ◆ Classic window mode
- ◆ Inspect long output
- ◆ Snapshot an APL item
- ◆ Settings:]Box -view=
]box on -v=max
Was OFF -view=min



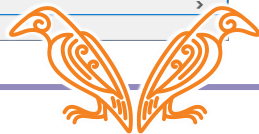
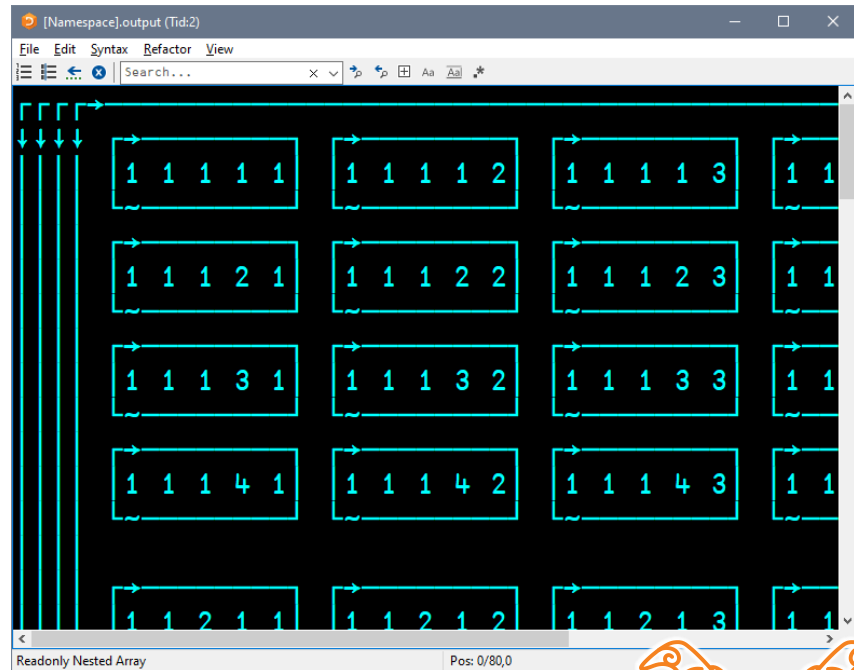
]OUTPUT.View

- ◆ Classic window mode
- ◆ Inspect long output
- ◆ Snapshot an APL item
- ◆ Settings:]Box -view=
]box on -v=max
Was OFF -view=min
]view 115



]OUTPUT.View

- Classic window mode
- Inspect long output
- Snapshot an APL item
- Settings: `]Box -view=`
 `]box on -v=max`
Was OFF `-view=min`
 `]view 115`



`]OUTPUT.View`

`]WS.Names`

`]TOOLS.APLCart`

`]OUTPUT.Repr`

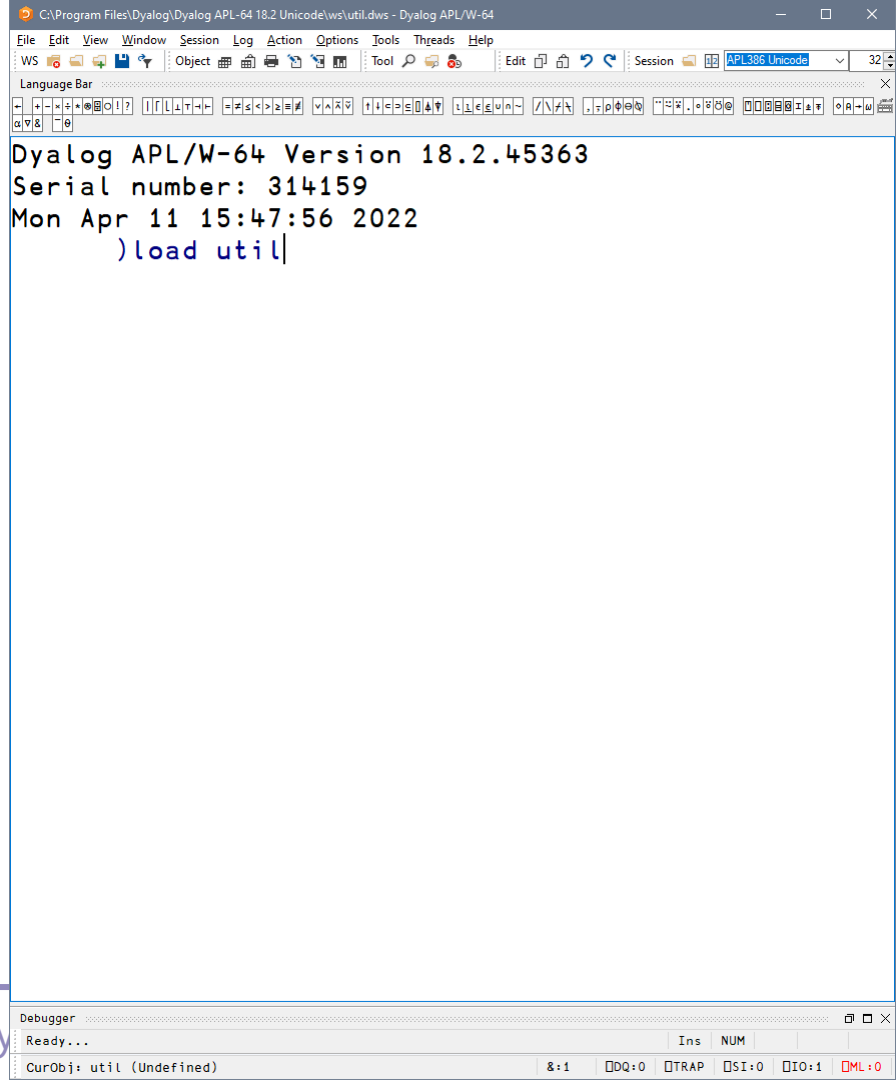
`]EXPERIMENTAL.Get`



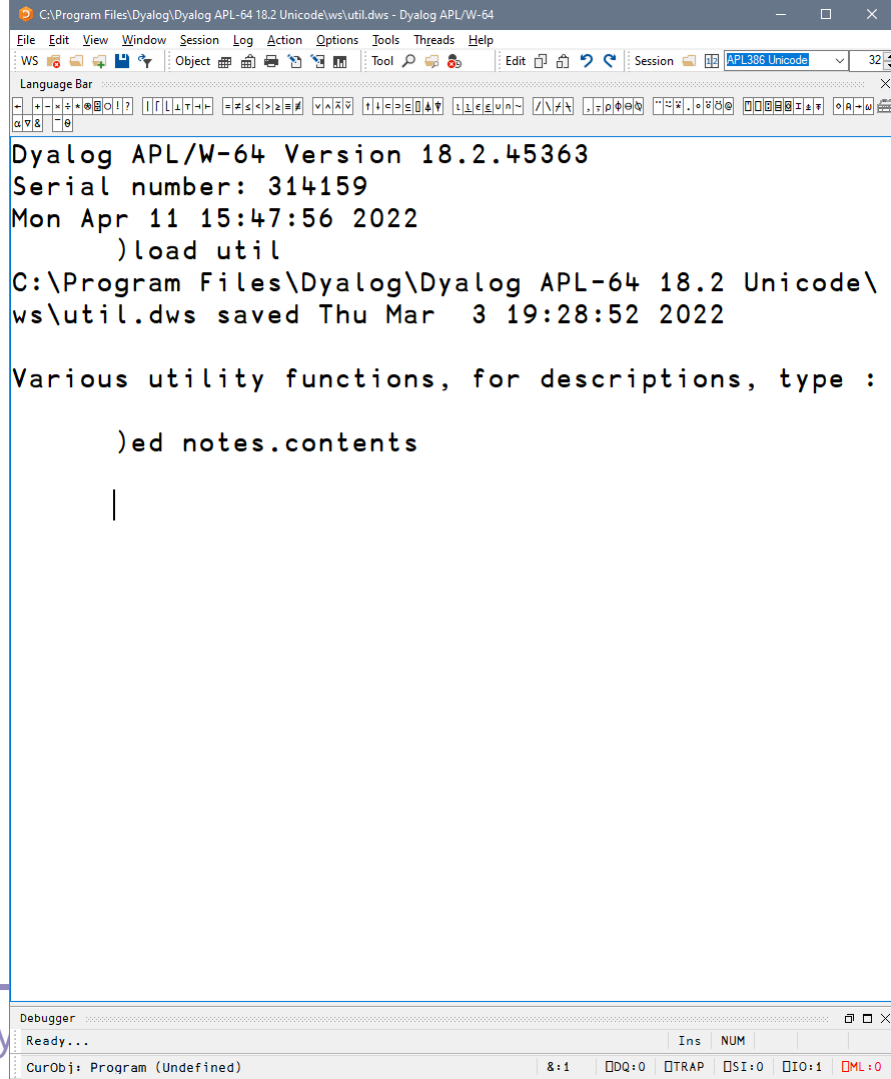
]WS.Names



]WS.Names



]WS.Names



The screenshot shows the Dyalog APL/W-64 environment. The title bar indicates the file path: C:\Program Files\Dyalog\Dyalog APL-64 18.2 Unicode\ws\util.dws - Dyalog APL/W-64. The menu bar includes File, Edit, View, Window, Session, Log, Action, Options, Tools, Threads, and Help. The toolbar contains icons for various functions like opening files, saving, and executing. The Language Bar shows the current session is 'APL 386 Unicode' with a line number of 32. The main workspace displays the following text:

```
Dyalog APL/W-64 Version 18.2.45363
Serial number: 314159
Mon Apr 11 15:47:56 2022
)load util
C:\Program Files\Dyalog\Dyalog APL-64 18.2 Unicode\
ws\util.dws saved Thu Mar 3 19:28:52 2022

Various utility functions, for descriptions, type :

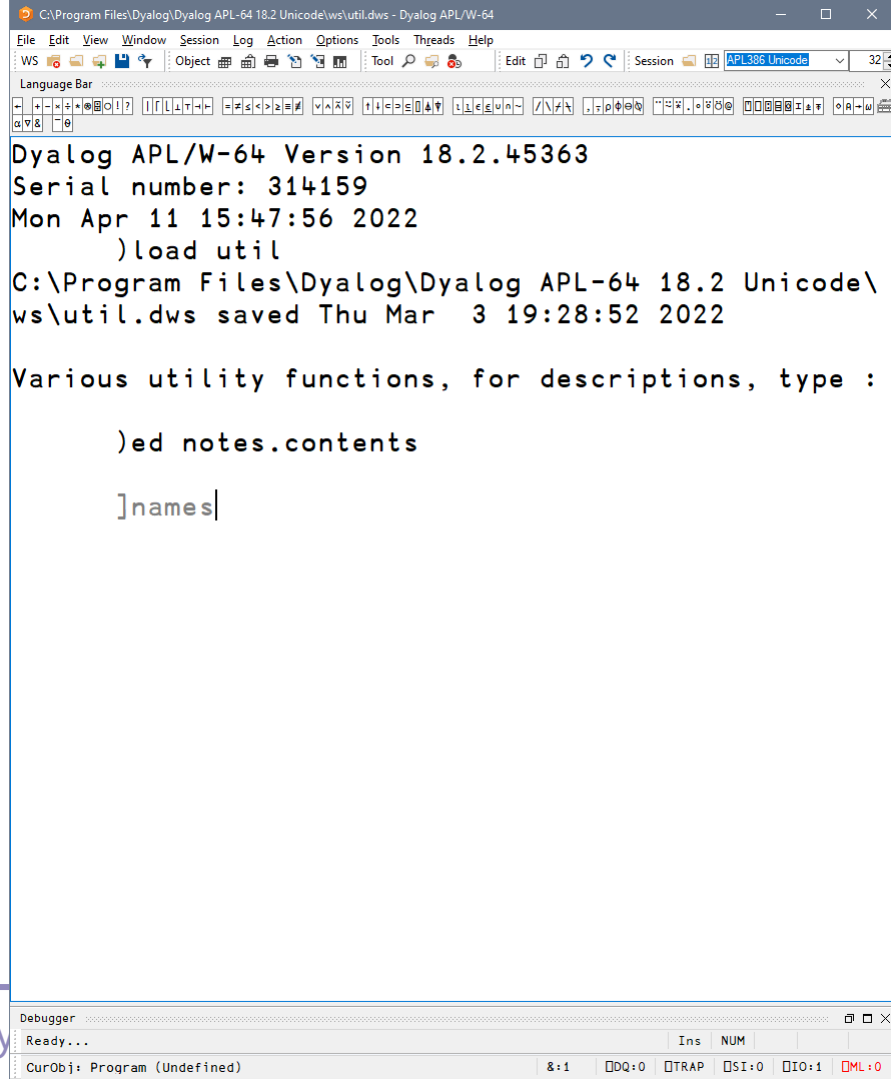
    )ed notes.contents

|
```

The Debugger window at the bottom shows 'Ready...' and 'CurObj: Program (Undefined)'. The status bar at the very bottom displays various system metrics: &1, □DQ:0, □TRAP, □SI:0, □IO:1, and □ML:0.

]WS.Names

List all



The screenshot shows the Dyalog APL/W-64 environment. The title bar indicates the file path: C:\Program Files\Dyalog\APL-64 18.2 Unicode\ws\util.dws - Dyalog APL/W-64. The menu bar includes File, Edit, View, Window, Session, Log, Action, Options, Tools, Threads, and Help. The toolbar contains icons for various functions like opening files, saving, and executing. The main workspace displays the following text:

```
Dyalog APL/W-64 Version 18.2.45363
Serial number: 314159
Mon Apr 11 15:47:56 2022
)load util
C:\Program Files\Dyalog\Dyalog APL-64 18.2 Unicode\
ws\util.dws saved Thu Mar 3 19:28:52 2022

Various utility functions, for descriptions, type :

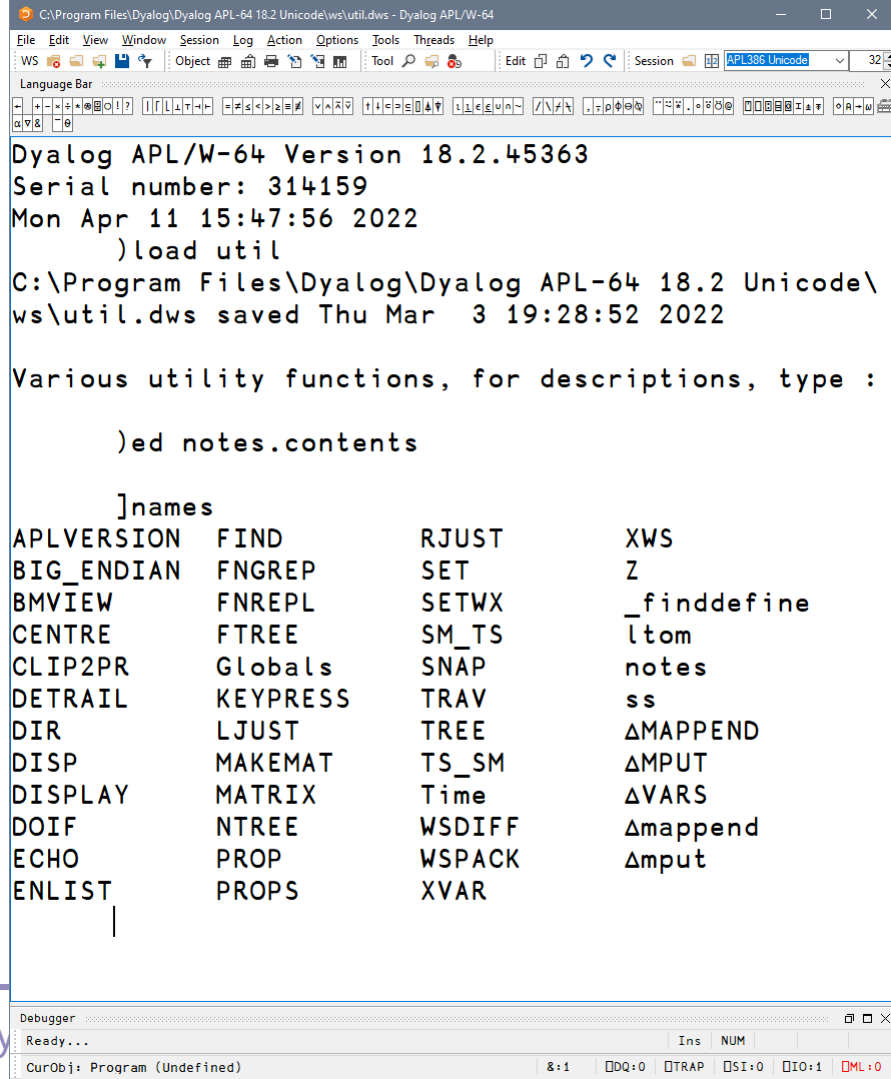
)ed notes.contents

]names|
```

The bottom of the window shows a Debugger panel with the status 'Ready...' and a list of variables: Ins, NUM, CurObj: Program (Undefined), &1, DQ:0, TRAP, SI:0, IO:1, ML:0.

]WS.Names

List all



The screenshot shows the Dyalog APL/W-64 Version 18.2.45363 interface. The title bar indicates the file path: C:\Program Files\Dyalog\APL-64 18.2 Unicode\ws\util.dws - Dyalog APL/W-64. The menu bar includes File, Edit, View, Window, Session, Log, Action, Options, Tools, Threads, and Help. The toolbar contains various icons for file operations, editing, and session management. The Language Bar is visible at the top, showing a selection of characters. The main window displays the following text:

```
Dyalog APL/W-64 Version 18.2.45363
Serial number: 314159
Mon Apr 11 15:47:56 2022
)load util
C:\Program Files\Dyalog\Dyalog APL-64 18.2 Unicode\
ws\util.dws saved Thu Mar 3 19:28:52 2022

Various utility functions, for descriptions, type :

)ed notes.contents

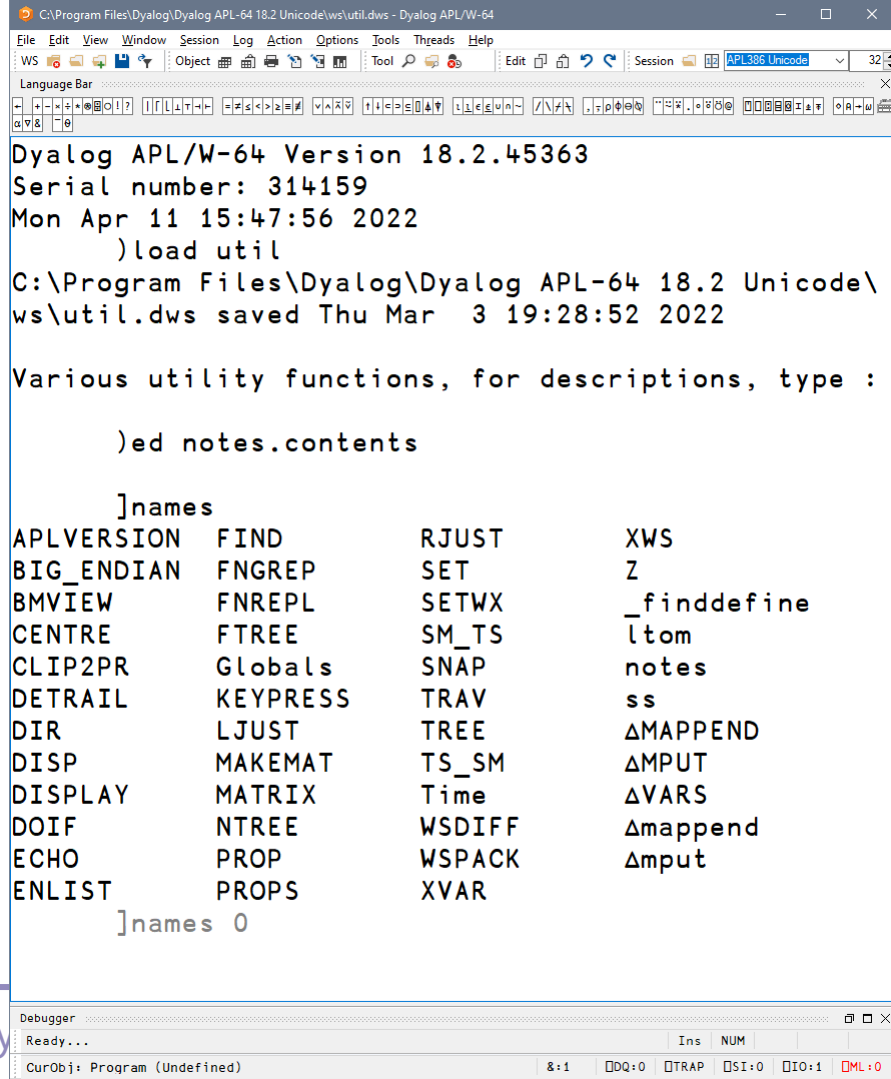
]names
```

APLVERSION	FIND	RJUST	XWS
BIG_ENDIAN	FNGREP	SET	Z
BMVIEW	FNREPL	SETWX	_finddefine
CENTRE	FTREE	SM_TS	ltom
CLIP2PR	Globals	SNAP	notes
DETRAIL	KEYPRESS	TRAV	ss
DIR	LJUST	TREE	ΔMAPPEND
DISP	MAKEMAT	TS_SM	ΔMPUT
DISPLAY	MATRIX	Time	ΔVARS
DOIF	NTREE	WSDIFF	Δmappend
ECHO	PROP	WSPACK	Δmput
ENLIST	PROPS	XVAR	

The bottom of the interface shows a Debugger window with the status "Ready..." and a list of variables: Ins, NUM, &1, ΔQ:0, ΔTRAP, ΔSI:0, ΔIO:1, and ΔML:0.

]WS.Names

- List all
- Group by nameclass



```
C:\Program Files\Dyalog\Apl-64 18.2 Unicode\ws\util.dws - Dyalog APL/W-64
File Edit View Window Session Log Action Options Tools Threads Help
WS WS Object Object Tool Tool Session APL-386 Unicode 32
Language Bar
Dyalog APL/W-64 Version 18.2.45363
Serial number: 314159
Mon Apr 11 15:47:56 2022
)load util
C:\Program Files\Dyalog\Apl-64 18.2 Unicode\
ws\util.dws saved Thu Mar 3 19:28:52 2022

Various utility functions, for descriptions, type :

)ed notes.contents

]names
APLVERSION FIND RJUST XWS
BIG_ENDIAN FNGREP SET Z
BMVIEW FNREPL SETWX _finddefine
CENTRE FTREE SM_TS ltom
CLIP2PR Globals SNAP notes
DETRAIL KEYPRESS TRAV ss
DIR LJUST TREE ΔMAPPEND
DISP MAKEMAT TS_SM ΔMPUT
DISPLAY MATRIX Time ΔVARS
DOIF NTREE WSDIFF Δmappend
ECHO PROP WSPACK Δmput
ENLIST PROPS XVAR

]names 0

Debugger
Ready...
CurObj: Program (Undefined)
&1 □□DQ:0 □TRAP □SI:0 □IO:1 □ML:0
```

]WS.Names

- List all
- Group by nameclass

The screenshot shows the APL W-64 IDE. The main window is titled "C:\Program Files\Dialog Ar L-64 18.2 Unicode\wsl\util.dws - Dialog APL W-64". The menu bar includes File, Edit, View, Window, Session, Log, Action, Options, Tools, Threads, and Help. The toolbar contains icons for various functions like opening files, saving, and running. The "Language Bar" at the top shows the current session is "APL 386 Unicode".

The code editor displays the following APL code:

```

BIG_ENDIAN      FNGREP      SET      Z
BMVIEW          FNREPL      SETWX     _finddefine
CENTRE          FTREE       SM_TS     ltom
CLIP2PR         Globals     SNAP      notes
DETRAIL         KEYPRESS    TRAV      ss
DIR             LJUST       TREE      ΔMAPPEND
DISP            MAKEMAT     TS_SM     ΔMPUT
DISPLAY         MATRIX      Time      ΔVARS
DOIF            NTREE       WSDIFF    Δmappend
ECHO            PROP        WSPACK    Δmput
ENLIST          PROPS       XVAR

]names 0
—— 2 ——      ECHO      PROPS      _finddefine
Z              ENLIST    RJUST      ltom
—— 3 ——      FIND      SET        ss
APLVERSION     FNGREP     SETWX     ΔMAPPEND
BIG_ENDIAN     FNREPL     SM_TS     ΔMPUT
BMVIEW         FTREE      SNAP      ΔVARS
CENTRE         Globals    TREE      Δmappend
CLIP2PR        KEYPRESS   TS_SM     Δmput
DETRAIL        LJUST      Time      —— 4 ——
DIR            MAKEMAT     WSDIFF    TRAV
DISP           MATRIX      WSPACK    —— 9 ——
DISPLAY        NTREE      XVAR      notes
DOIF           PROP        XWS
|

```

The debugger window at the bottom shows "Ready..." and "CurObj: Program (Undefined)". The status bar at the very bottom displays "8:1" and various flags like "DQ:0", "TRAP", "SI:0", "IO:1", and "ML:0".

]WS.Names

- List all
- Group by nameclass
- Filter by nameclass

```

BIG_ENDIAN  FNGREP      SET          Z
BMVIEW      FNREPL     SETWX       _finddefine
CENTRE      FTREE      SM_TS      ltom
CLIP2PR     Globals    SNAP       notes
DETRAIL     KEYPRESS   TRAV       ss
DIR         LJUST      TREE       ΔMAPPEND
DISP        MAKEMAT   TS_SM      ΔMPUT
DISPLAY     MATRIX      Time       ΔVARS
DOIF        NTREE      WSDIFF     Δmappend
ECHO        PROP       WSPACK     Δmput
ENLIST      PROPS      XVAR

]names 0
—— 2 ——
Z          ENLIST      RJUST      ltom
—— 3 ——
APLVERSION FNGREP      SETWX      ΔMAPPEND
BIG_ENDIAN FNREPL     SM_TS      ΔMPUT
BMVIEW     FTREE      SNAP       ΔVARS
CENTRE     Globals    TREE       Δmappend
CLIP2PR    KEYPRESS   TS_SM      Δmput
DETRAIL    LJUST      Time       —— 4 ——
DIR        MAKEMAT   WSDIFF     TRAV
DISP       MATRIX      WSPACK     —— 9 ——
DISPLAY    NTREE      XVAR       notes
DOIF       PROP       XWS

]names 3 4

```

Debugger
Ready...
CurObj: FNGREP (Function)

]WS.Names

- List all
- Group by nameclass
- Filter by nameclass

```

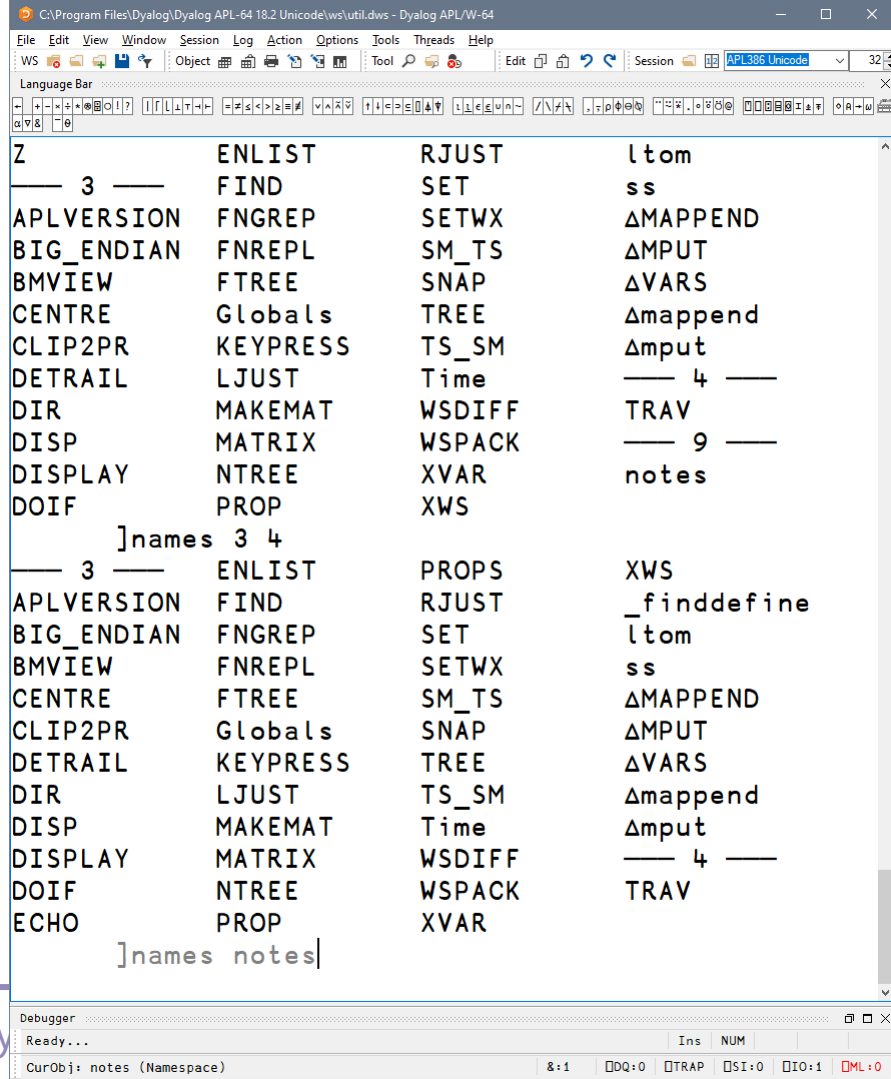
Z
—— 3 ——
APLVERSION  FNGREP  SETWX  ltom
BIG_ENDIAN  FNREPL  SM_TS  ss
BMVIEW      FTREE   SNAP   ΔMAPPEND
CENTRE      Globals TREE    ΔMPUT
CLIP2PR     KEYPRESS TS_SM  ΔMPUT
DETRAIL     LJUST   Time   — 4 —
DIR         MAKEMAT WSDIFF TRAV
DISP        MATRIX  WSPACK — 9 —
DISPLAY     NTREE   XVAR   notes
DOIF        PROP    XWS

]names 3 4
—— 3 ——
APLVERSION  FIND    RJUST  XWS
BIG_ENDIAN  FNGREP  SET    _finddefine
BMVIEW      FNREPL  SETWX  ltom
CENTRE      FTREE   SM_TS  ss
CLIP2PR     Globals SNAP   ΔMAPPEND
DETRAIL     KEYPRESS TREE    ΔMPUT
DIR         LJUST   TS_SM  ΔVARS
DISP        MAKEMAT Time   Δmappend
DISPLAY     MATRIX  WSDIFF Δmput
DOIF        NTREE   WSPACK — 4 —
ECHO        PROP    XVAR   TRAV

```


]WS.Names

- List all
- Group by nameclass
- Filter by nameclass
- Specific namespace



The screenshot shows the Dyalog APL IDE interface. The main window displays the results of the `]WS.Names` command, showing a list of APL functions grouped by nameclass. The bottom window shows the Debugger with the current object being `notes (Namespace)`.

```

Z
—— 3 ——
APLVERSION
BIG_ENDIAN
BMVIEW
CENTRE
CLIP2PR
DETRAIL
DIR
DISP
DISPLAY
DOIF

ENLIST
FIND
FNGREP
FNREPL
FTREE
Globals
KEYPRESS
LJUST
MAKEMAT
MATRIX
NTREE
PROP

RJUST
SET
SETWX
SM_TS
SNAP
TREE
TS_SM
Time
WSDIFF
WSPACK
XVAR
XWS

ltom
ss
ΔMAPPEND
ΔMPUT
ΔVARS
Δmappend
Δmput
—— 4 ——
TRAV
—— 9 ——
notes

]names 3 4
—— 3 ——
APLVERSION
BIG_ENDIAN
BMVIEW
CENTRE
CLIP2PR
DETRAIL
DIR
DISP
DISPLAY
DOIF
ECHO

ENLIST
FIND
FNGREP
FNREPL
FTREE
Globals
KEYPRESS
LJUST
MAKEMAT
MATRIX
NTREE
PROP

PROPS
RJUST
SET
SETWX
SM_TS
SNAP
TREE
TS_SM
Time
WSDIFF
WSPACK
XVAR

XWS
_finddefine
ltom
ss
ΔMAPPEND
ΔMPUT
ΔVARS
Δmappend
Δmput
—— 4 ——
TRAV

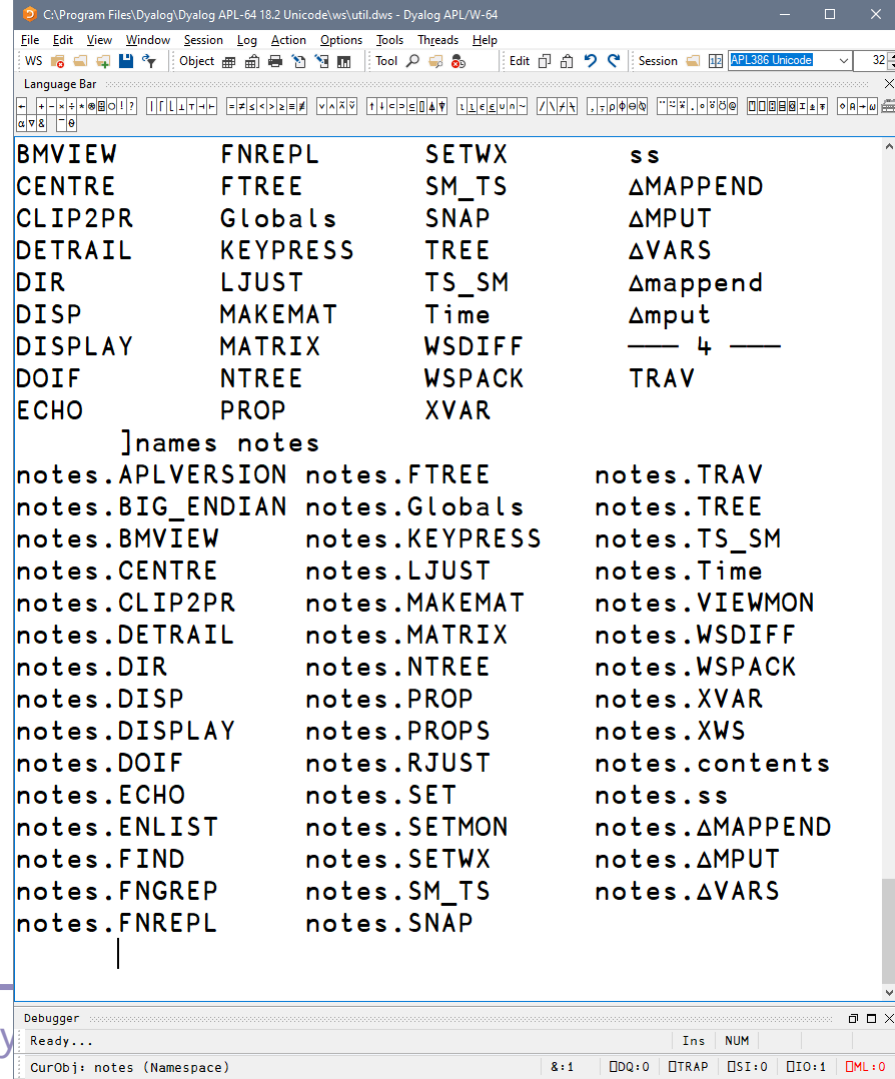
]names notes

```

Debugger
Ready...
CurObj: notes (Namespace)

]WS.Names

- List all
- Group by nameclass
- Filter by nameclass
- Specific namespace



The screenshot shows the Dyalog APL IDE with the command `]WS.Names` executed. The output is displayed in a table format, listing various APL functions and their namespaces. The functions are grouped by nameclass, and the namespaces are listed in the right column. The output is as follows:

Function	Namespace
BMVIEW	notes.BMVIEW
CENTRE	notes.CENTRE
CLIP2PR	notes.CLIP2PR
DETRAIL	notes.DETRAIL
DIR	notes.DIR
DISP	notes.DISP
DISPLAY	notes.DISPLAY
DOIF	notes.DOIF
ECHO	notes.ECHO
ENLIST	notes.ENLIST
FIND	notes.FIND
FNGREP	notes.FNGREP
FNREPL	notes.FNREPL
FTREE	notes.FTREE
Globals	notes.Globals
KEYPRESS	notes.KEYPRESS
LJUST	notes.LJUST
MAKEMAT	notes.MAKEMAT
MATRIX	notes.MATRIX
NTREE	notes.NTREE
PROP	notes.PROP
PROPS	notes.PROPS
RJUST	notes.RJUST
SET	notes.SET
SETMON	notes.SETMON
SETWX	notes.SETWX
SM_TS	notes.SM_TS
SNAP	notes.SNAP
ss	notes.ss
ΔMAPPEND	notes.ΔMAPPEND
ΔMPUT	notes.ΔMPUT
ΔVARS	notes.ΔVARS
Δmappend	notes.Δmappend
Δmput	notes.Δmput
TRAV	notes.TRAV
VIEWMON	notes.VIEWMON
WSDIFF	notes.WSDIFF
WSPACK	notes.WSPACK
XVAR	notes.XVAR
XWS	notes.XWS
contents	notes.contents

]WS.Names

- List all
- Group by nameclass
- Filter by nameclass
- Specific namespace
- Filter using wildcards

The screenshot shows the APL W-64 IDE interface. The main window displays a list of variables and their values, organized into three columns. The variables are listed in the first column, and their values are in the second and third columns. The variables are: BIG_ENDIAN, FNREPL, SM_TS, ΔMPUT, BMVIEW, FTREE, SNAP, ΔVARS, CENTRE, Globals, TREE, Δmappend, CLIP2PR, KEYPRESS, TS_SM, Δmput, DETRAIL, LJUST, Time, — 4 —, DIR, MAKEMAT, WSDIFF, TRAV, DISP, MATRIX, WSPACK, — 9 —, DISPLAY, NTREE, XVAR, notes, DOIF, PROP, XWS. The bottom of the window shows a Debugger panel with 'Ready...' and 'CurObj: TREE (Function)'.

Variable	Value	Value
BIG_ENDIAN	FNREPL	SM_TS
BMVIEW	FTREE	SNAP
CENTRE	Globals	TREE
CLIP2PR	KEYPRESS	TS_SM
DETRAIL	LJUST	Time
DIR	MAKEMAT	WSDIFF
DISP	MATRIX	WSPACK
DISPLAY	NTREE	XVAR
DOIF	PROP	XWS

names notes

notes.APLVERSION notes.FTREE notes.TRAV

notes.BIG_ENDIAN notes.Globals notes.TREE

notes.BMVIEW notes.KEYPRESS notes.TS_SM

notes.CENTRE notes.LJUST notes.Time

notes.CLIP2PR notes.MAKEMAT notes.VIEWMON

notes.DETRAIL notes.MATRIX notes.WSDIFF

notes.DIR notes.NTREE notes.WSPACK

notes.DISP notes.PROP notes.XVAR

notes.DISPLAY notes.PROPS notes.XWS

notes.DOIF notes.RJUST notes.contents

notes.ECHO notes.SET notes.ss

notes.ENLIST notes.SETMON notes.ΔMAPPEND

notes.FIND notes.SETWX notes.ΔMPUT

notes.FNGREP notes.SM_TS notes.ΔVARS

notes.FNREPL notes.SNAP

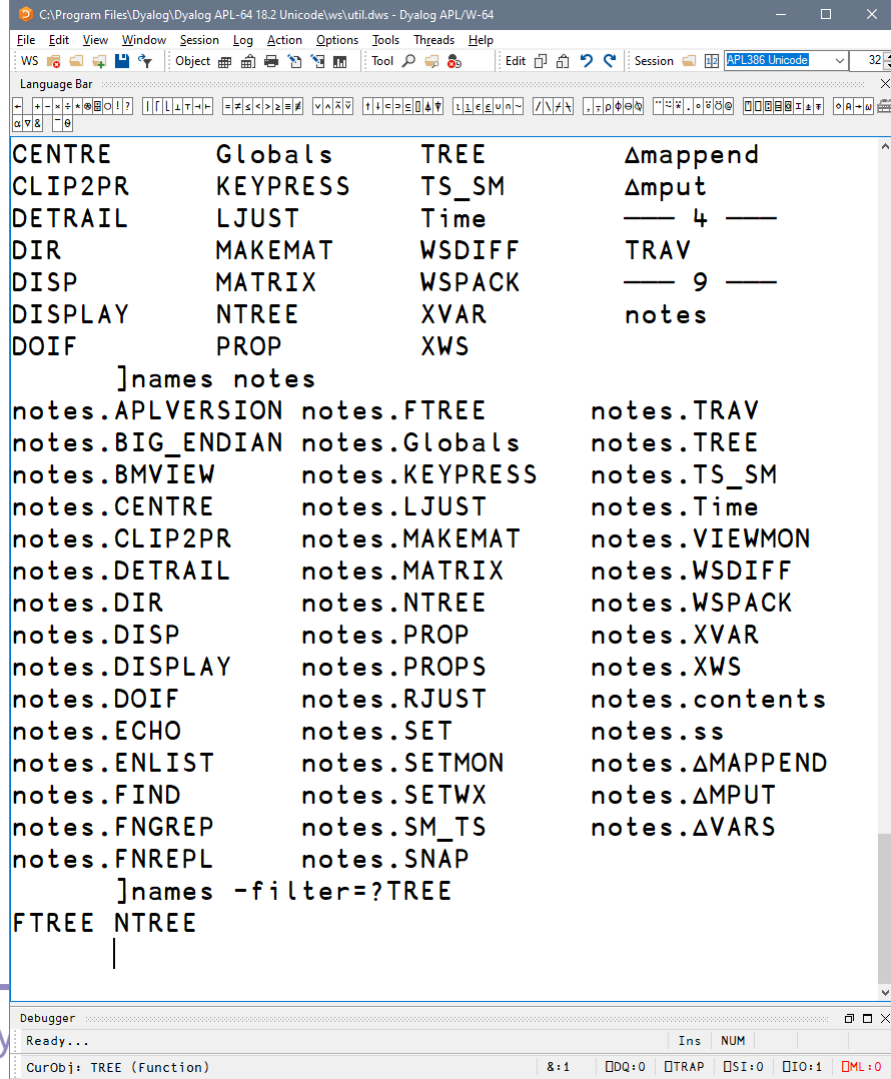
names -filter=?TREE

Debugger Ready... Ins NUM

CurObj: TREE (Function) &1 □DQ:0 □TRAP □SI:0 □IO:1 □ML:0

]WS.Names

- List all
- Group by nameclass
- Filter by nameclass
- Specific namespace
- Filter using wildcards



The screenshot shows the Dyalog APL IDE with the command `]WS.Names` entered in the workspace. The output is displayed in a grid-like format, showing various system and user-defined objects. The objects are listed in four columns, with some having associated values or flags. The output includes:

Object	Value/Flag
CENTRE	
CLIP2PR	
DETRAIL	
DIR	
DISP	
DISPLAY	
DOIF	
Globals	
KEYPRESS	
LJUST	
MAKEMAT	
MATRIX	
NTREE	
PROP	
TREE	
TS_SM	
Time	
WSDIFF	
WSPACK	
XVAR	
XWS	
Δmappend	
Δmput	
TRAV	
notes	

The command `]names notes` is entered, and the output shows a list of objects in the `notes` namespace, including `notes.APLVERSION`, `notes.BIG_ENDIAN`, `notes.BMVIEW`, `notes.CENTRE`, `notes.CLIP2PR`, `notes.DETRAIL`, `notes.DIR`, `notes.DISP`, `notes.DISPLAY`, `notes.DOIF`, `notes.ECHO`, `notes.ENLIST`, `notes.FIND`, `notes.FNGREP`, `notes.FNREPL`, `notes.FTREE`, `notes.Global`, `notes.KEYPRESS`, `notes.LJUST`, `notes.MAKEMAT`, `notes.MATRIX`, `notes.NTREE`, `notes.PROP`, `notes.PROPS`, `notes.RJUST`, `notes.SET`, `notes.SETMON`, `notes.SETWX`, `notes.SM_TS`, `notes.SNAP`, `notes.TREE`, `notes.TS_SM`, `notes.Time`, `notes.VIEWMON`, `notes.WSDIFF`, `notes.WSPACK`, `notes.XVAR`, `notes.XWS`, `notes.contents`, `notes.ss`, `notes.ΔMAPPEND`, `notes.ΔMPUT`, and `notes.ΔVARS`.

]WS.Names

- List all
- Group by nameclass
- Filter by nameclass
- Specific namespace
- Filter using wildcards

The screenshot shows the Dyalog APL IDE with the following content:

Language Bar

CENTRE	Globals	TREE	Δmappend
CLIP2PR	KEYPRESS	TS_SM	Δmput
DETRAIL	LJUST	Time	— 4 —
DIR	MAKEMAT	WSDIFF	TRAV
DISP	MATRIX	WSPACK	— 9 —
DISPLAY	NTREE	XVAR	notes
DOIF	PROP	XWS	

]names notes

notes.APLVERSION	notes.FTREE	notes.TRAV
notes.BIG_ENDIAN	notes.Globals	notes.TREE
notes.BMVIEW	notes.KEYPRESS	notes.TS_SM
notes.CENTRE	notes.LJUST	notes.Time
notes.CLIP2PR	notes.MAKEMAT	notes.VIEWMON
notes.DETRAIL	notes.MATRIX	notes.WSDIFF
notes.DIR	notes.NTREE	notes.WSPACK
notes.DISP	notes.PROP	notes.XVAR
notes.DISPLAY	notes.PROPS	notes.XWS
notes.DOIF	notes.RJUST	notes.contents
notes.ECHO	notes.SET	notes.ss
notes.ENLIST	notes.SETMON	notes.ΔMAPPEND
notes.FIND	notes.SETWX	notes.ΔMPUT
notes.FNGREP	notes.SM_TS	notes.ΔVARS
notes.FNREPL	notes.SNAP	

]names -filter=?TREE

FTREE NTREE

]names -filter=DISP*

Debugger

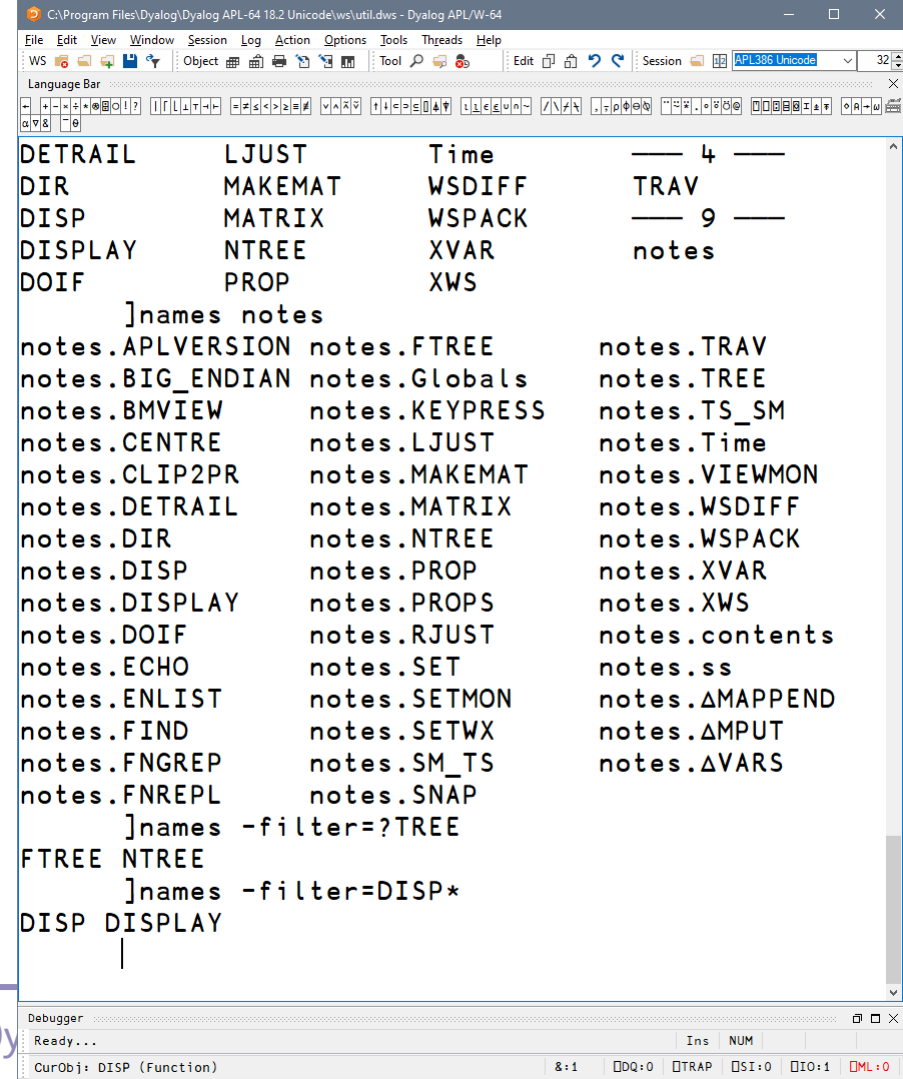
Ready...

CurObj: DISP (Function)

8:1 □□Q:0 □TRAP □SI:0 □IO:1 □ML:0

]WS.Names

- List all
- Group by nameclass
- Filter by nameclass
- Specific namespace
- Filter using wildcards

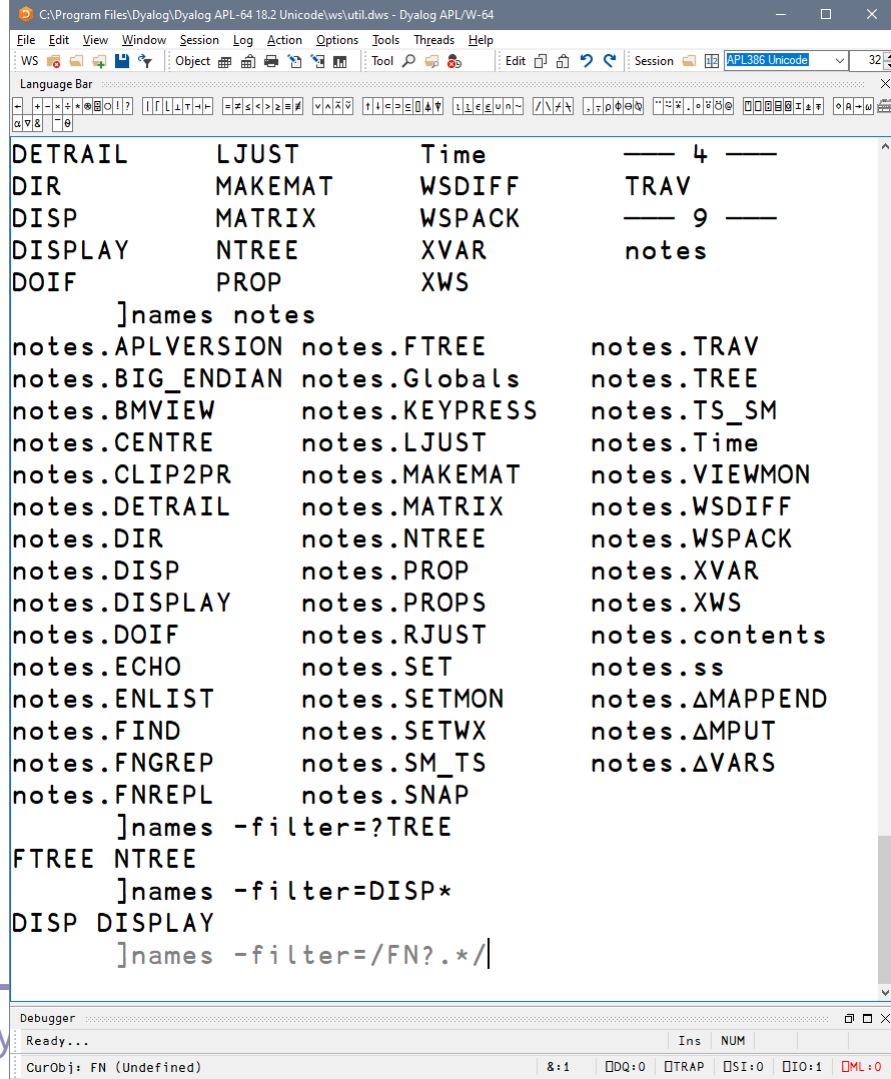


The screenshot shows the Dyalog APL IDE with the command `]WS.Names` entered in the command line. The output is a table of workspace names and their classes, grouped by nameclass. The table has four columns: Name, Class, Time, and Notes. The names are listed in alphabetical order within each group. The classes are: DETRAIL, DIR, DISP, DISPLAY, DOIF, ECHO, ENLIST, FIND, FNGREP, FNREPL, FTREE, NTREE, and NTREE. The time column shows the time taken to create each object. The notes column contains various notes, including 'notes', 'notes.FTREE', 'notes.Globals', 'notes.KEYPRESS', 'notes.LJUST', 'notes.MAKEMAT', 'notes.MATRIX', 'notes.NTREE', 'notes.PROPS', 'notes.RJUST', 'notes.SET', 'notes.SETMON', 'notes.SETWX', 'notes.SM_TS', 'notes.SNAP', 'notes.contents', 'notes.ss', 'notes.ΔMAPPEND', 'notes.ΔMPUT', and 'notes.ΔVARS'.

Name	Class	Time	Notes
DETRAIL	LJUST	Time	4
DIR	MAKEMAT	WSDIFF	TRAV
DISP	MATRIX	WSPACK	9
DISPLAY	NTREE	XVAR	notes
DOIF	PROP	XWS	
]names notes			
notes.APLVERSION	notes.FTREE	notes.TRAV	
notes.BIG_ENDIAN	notes.Globals	notes.TREE	
notes.BMVIEW	notes.KEYPRESS	notes.TS_SM	
notes.CENTRE	notes.LJUST	notes.Time	
notes.CLIP2PR	notes.MAKEMAT	notes.VIEWMON	
notes.DETRAIL	notes.MATRIX	notes.WSDIFF	
notes.DIR	notes.NTREE	notes.WSPACK	
notes.DISP	notes.PROP	notes.XVAR	
notes.DISPLAY	notes.PROPS	notes.XWS	
notes.DOIF	notes.RJUST	notes.contents	
notes.ECHO	notes.SET	notes.ss	
notes.ENLIST	notes.SETMON	notes.ΔMAPPEND	
notes.FIND	notes.SETWX	notes.ΔMPUT	
notes.FNGREP	notes.SM_TS	notes.ΔVARS	
notes.FNREPL	notes.SNAP		
]names -filter=?TREE			
FTREE	NTREE		
]names -filter=DISP*			
DISP	DISPLAY		

]WS.Names

- List all
- Group by nameclass
- Filter by nameclass
- Specific namespace
- Filter using wildcards
- Filter using regex



The screenshot shows the Dyalog APL IDE with the command `]WS.Names` executed. The output is a table of workspace names and their classes, with some names highlighted in blue. The table has four columns: Name, Class, Time, and a fourth column with a blue header. The names are listed in three columns, with some names in the first column having a blue header. The names are: DETRAIL, DIR, DISP, DISPLAY, DOIF, LJUST, MAKEMAT, MATRIX, NTREE, PROP, Time, WSDIFF, WSPACK, XVAR, XWS, 4, TRAV, 9, notes. The names are listed in three columns, with some names in the first column having a blue header. The names are: DETRAIL, DIR, DISP, DISPLAY, DOIF, LJUST, MAKEMAT, MATRIX, NTREE, PROP, Time, WSDIFF, WSPACK, XVAR, XWS, 4, TRAV, 9, notes. The names are listed in three columns, with some names in the first column having a blue header. The names are: DETRAIL, DIR, DISP, DISPLAY, DOIF, LJUST, MAKEMAT, MATRIX, NTREE, PROP, Time, WSDIFF, WSPACK, XVAR, XWS, 4, TRAV, 9, notes.

```
DETRAIL      LJUST      Time      4
DIR           MAKEMAT    WSDIFF     TRAV
DISP          MATRIX     WSPACK     9
DISPLAY       NTREE      XVAR       notes
DOIF          PROP       XWS

]names notes
notes.APLVERSION notes.FTREE      notes.TRAV
notes.BIG_ENDIAN notes.Globals  notes.TREE
notes.BMVIEW      notes.KEYPRESS notes.TS_SM
notes.CENTRE      notes.LJUST    notes.Time
notes.CLIP2PR     notes.MAKEMAT  notes.VIEWMON
notes.DETRAIL     notes.MATRIX   notes.WSDIFF
notes.DIR         notes.NTREE    notes.WSPACK
notes.DISP        notes.PROP     notes.XVAR
notes.DISPLAY     notes.PROPS    notes.XWS
notes.DOIF        notes.RJUST    notes.contents
notes.ECHO        notes.SET      notes.ss
notes.ENLIST      notes.SETMON   notes.ΔMAPPEND
notes.FIND        notes.SETWX    notes.ΔMPUT
notes.FNGREP      notes.SM_TS    notes.ΔVARS
notes.FNREPL      notes.SNAP

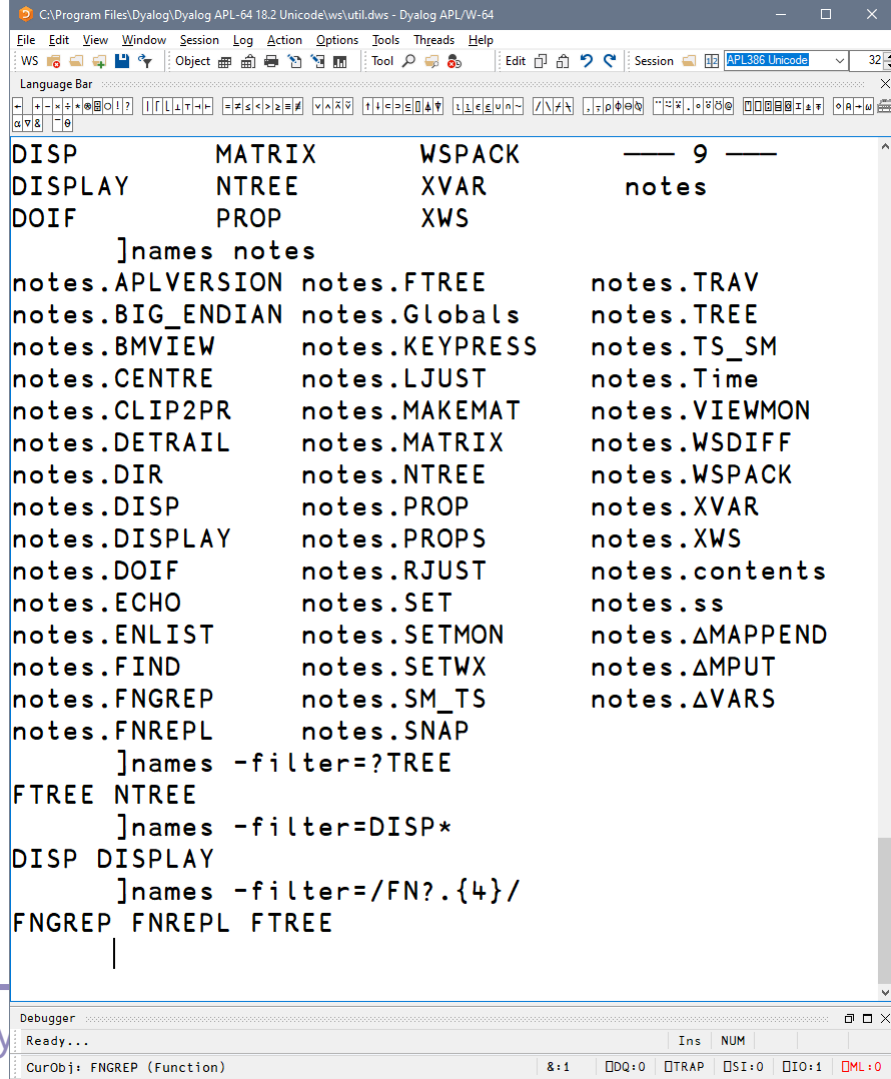
]names -filter=?TREE
FTREE NTREE

]names -filter=DISP*
DISP DISPLAY

]names -filter=/FN?.*/
```

]WS.Names

- List all
- Group by nameclass
- Filter by nameclass
- Specific namespace
- Filter using wildcards
- Filter using regex



The screenshot shows the Dyalog APL IDE with the following components:

- Language Bar:** Displays the current command as `]WS.Names`.
- Main Window:** Shows the output of the `]WS.Names` command, which lists all names in the workspace, grouped by nameclass (DISP, MATRIX, WSPACK, etc.).
- Debugger:** Shows the current state of the workspace, including the `CurObj` (FNGREP (Function)) and various status indicators.

```
DISP      MATRIX      WSPACK      — 9 —
DISPLAY   NTREE       XVAR       notes
DOIF      PROP       XWS

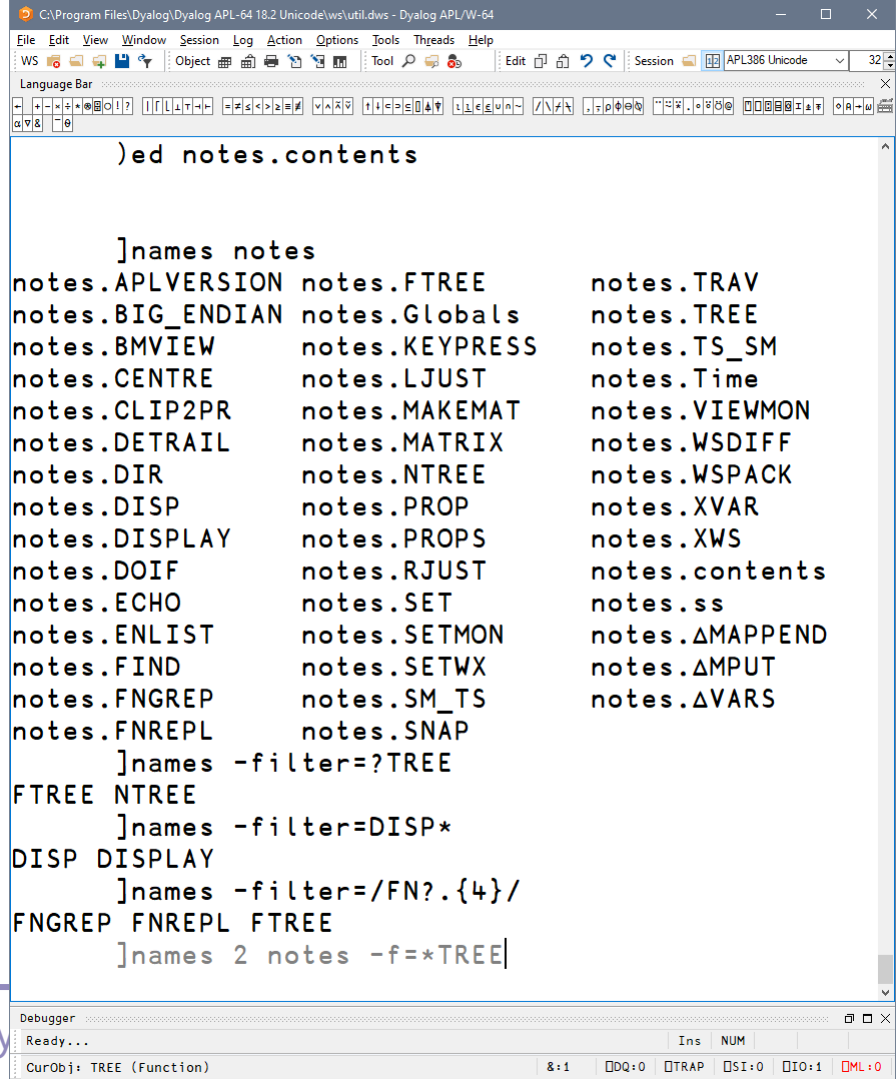
]names notes
notes.APLVERSION notes.FTREE      notes.TRAV
notes.BIG_ENDIAN notes.Globals  notes.TREE
notes.BMVIEW     notes.KEYPRESS notes.TS_SM
notes.CENTRE     notes.LJUST   notes.Time
notes.CLIP2PR    notes.MAKEMAT notes.VIEWMON
notes.DETRAIL    notes.MATRIX  notes.WSDIFF
notes.DIR        notes.NTREE   notes.WSPACK
notes.DISP       notes.PROP   notes.XVAR
notes.DISPLAY    notes.PROPS  notes.XWS
notes.DOIF       notes.RJUST  notes.contents
notes.ECHO       notes.SET    notes.ss
notes.ENLIST     notes.SETMON notes.ΔMAPPEND
notes.FIND       notes.SETWX  notes.ΔMPUT
notes.FNGREP     notes.SM_TS  notes.ΔVARS
notes.FNREPL     notes.SNAP

]names -filter=?TREE
FTREE NTREE
]names -filter=DISP*
DISP DISPLAY
]names -filter=/FN?.{4}/
FNGREP FNREPL FTREE
```


]WS.Names

- List all
- Group by nameclass
- Filter by nameclass
- Specific namespace
- Filter using wildcards
- Filter using regex

Combine all of these!



The screenshot shows the Dyalog APL IDE interface. The main window displays the output of the `]WS.Names` command, which lists various APL namespaces and their contents. The output is organized into three columns. The first column lists namespaces, the second column lists their contents, and the third column lists their nameclasses. The namespaces listed are: `notes.APLVERSION`, `notes.BIG_ENDIAN`, `notes.BMVIEW`, `notes.CENTRE`, `notes.CLIP2PR`, `notes.DETRAIL`, `notes.DIR`, `notes.DISP`, `notes.DISPLAY`, `notes.DOIF`, `notes.ECHO`, `notes.ENLIST`, `notes.FIND`, `notes.FNGREP`, `notes.FNREPL`, `notes.FTREE`, `notes.Globals`, `notes.KEYPRESS`, `notes.LJUST`, `notes.MAKEMAT`, `notes.MATRIX`, `notes.NTREE`, `notes.PROP`, `notes.PROPS`, `notes.RJUST`, `notes.SET`, `notes.SETMON`, `notes.SETWX`, `notes.SM_TS`, `notes.SNAP`, `notes.TRAV`, `notes.TREE`, `notes.TS_SM`, `notes.Time`, `notes.VIEWMON`, `notes.WSDIFF`, `notes.WSPACK`, `notes.XVAR`, `notes.XWS`, `notes.contents`, `notes.ss`, `notes.ΔMAPPEND`, `notes.ΔMPUT`, and `notes.ΔVARS`. The command `]names -filter=?TREE` is also shown, along with the command `]names -filter=DISP*` and the command `]names -filter=/FN?.{4}/`. The command `]names 2 notes -f=*TREE|` is also shown.

```
]ed notes.contents

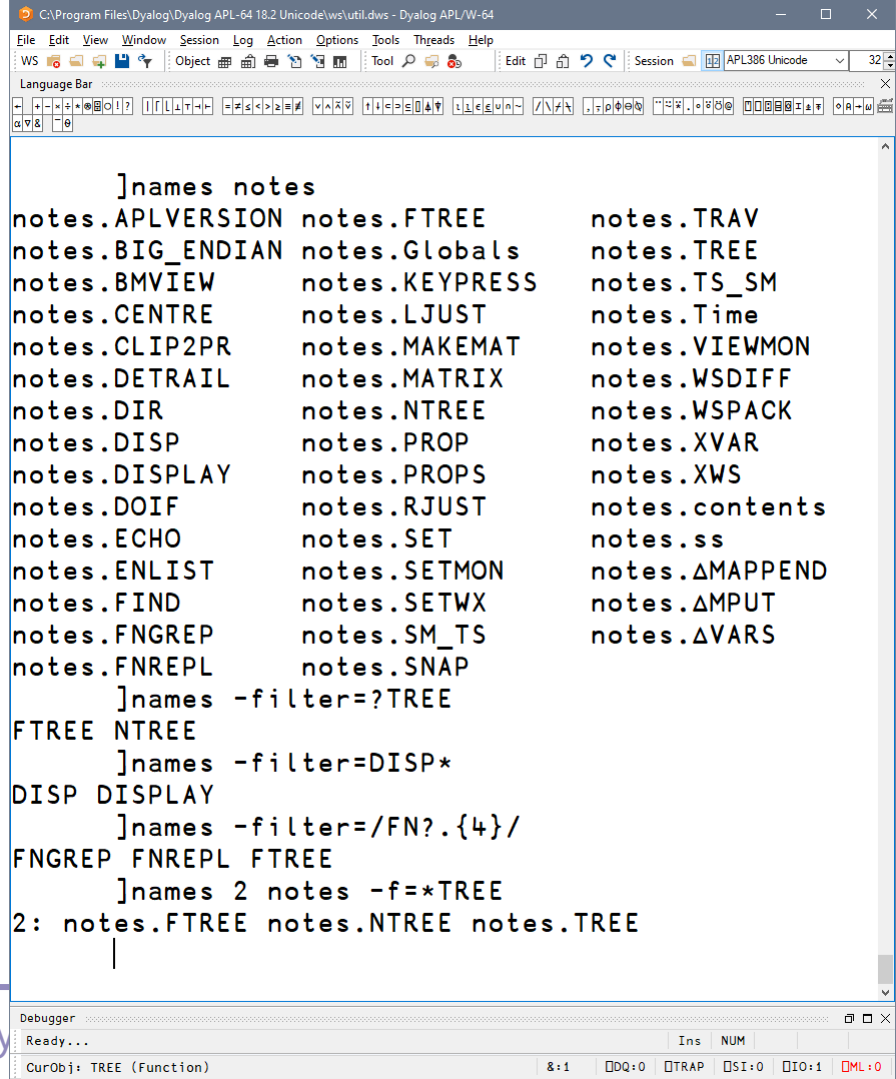
]names notes
notes.APLVERSION notes.FTREE      notes.TRAV
notes.BIG_ENDIAN notes.Globals    notes.TREE
notes.BMVIEW      notes.KEYPRESS  notes.TS_SM
notes.CENTRE      notes.LJUST     notes.Time
notes.CLIP2PR     notes.MAKEMAT   notes.VIEWMON
notes.DETRAIL     notes.MATRIX    notes.WSDIFF
notes.DIR         notes.NTREE     notes.WSPACK
notes.DISP        notes.PROP      notes.XVAR
notes.DISPLAY     notes.PROPS    notes.XWS
notes.DOIF        notes.RJUST    notes.contents
notes.ECHO        notes.SET      notes.ss
notes.ENLIST      notes.SETMON   notes.ΔMAPPEND
notes.FIND        notes.SETWX    notes.ΔMPUT
notes.FNGREP      notes.SM_TS    notes.ΔVARS
notes.FNREPL      notes.SNAP
]names -filter=?TREE
FTREE NTREE
]names -filter=DISP*
DISP DISPLAY
]names -filter=/FN?.{4}/
FNGREP FNREPL FTREE
]names 2 notes -f=*TREE|
```

Debugger
Ready...
CurObj: TREE (Function)

]WS.Names

- List all
- Group by nameclass
- Filter by nameclass
- Specific namespace
- Filter using wildcards
- Filter using regex

Combine all of these!



The screenshot shows the Dyalog APL IDE interface. The main workspace displays the output of the `]WS.Names` command, which lists various APL namespaces and their contents. The output is organized into three columns. The first column lists namespaces like `notes.APLVERSION`, `notes.BIG_ENDIAN`, etc. The second column lists namespaces like `notes.FTREE`, `notes.Globals`, etc. The third column lists namespaces like `notes.TRAV`, `notes.TREE`, etc. Below the list, there are several lines of code that filter the results using the `]names` command with various options like `-filter=?TREE`, `-filter=DISP*`, etc. The bottom of the screen shows a debugger window with the status 'Ready...' and a stack trace indicating the current function is `CurObj: TREE (Function)`.

```
]names notes
notes.APLVERSION notes.FTREE      notes.TRAV
notes.BIG_ENDIAN notes.Globals    notes.TREE
notes.BMVIEW      notes.KEYPRESS  notes.TS_SM
notes.CENTRE       notes.LJUST   notes.Time
notes.CLIP2PR      notes.MAKEMAT  notes.VIEWMON
notes.DETRAIL      notes.MATRIX   notes.WSDIFF
notes.DIR          notes.NTREE    notes.WSPACK
notes.DISP         notes.PROP     notes.XVAR
notes.DISPLAY      notes.PROPS    notes.XWS
notes.DOIF         notes.RJUST    notes.contents
notes.ECHO         notes.SET      notes.ss
notes.ENLIST       notes.SETMON   notes.ΔMAPPEND
notes.FIND         notes.SETWX    notes.ΔMPUT
notes.FNGREP       notes.SM_TS    notes.ΔVARS
notes.FNREPL       notes.SNAP
]names -filter=?TREE
FTREE NTREE
]names -filter=DISP*
DISP DISPLAY
]names -filter=/FN?.{4}/
FNGREP FNREPL FTREE
]names 2 notes -f=*TREE
2: notes.FTREE notes.NTREE notes.TREE
```

`]OUTPUT.View`

`]WS.Names`

`]TOOLS.APLCart`

`]OUTPUT.Repr`

`]EXPERIMENTAL.Get`



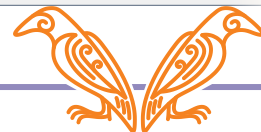
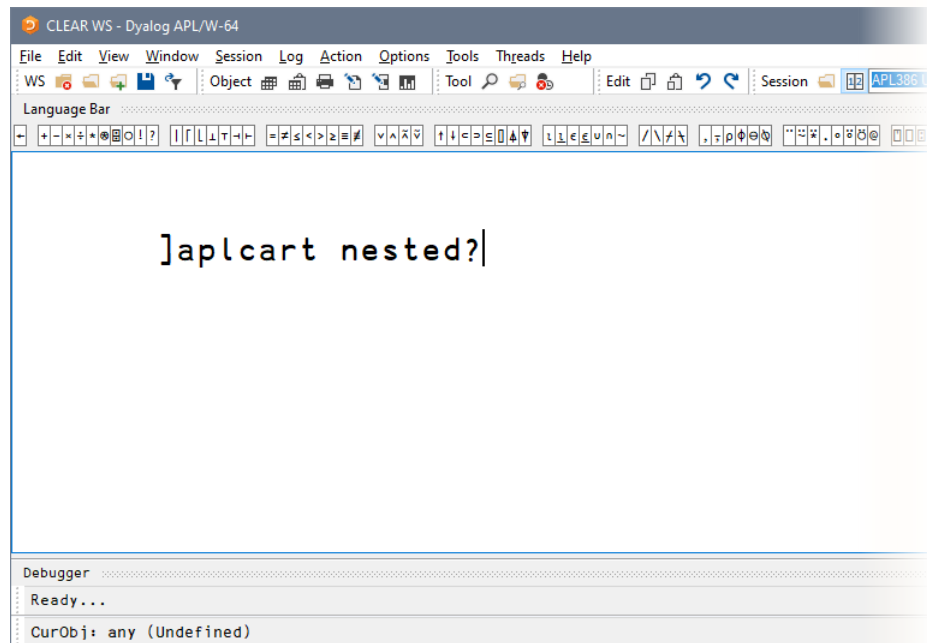
]TOOLS.APLCart

- Display in session



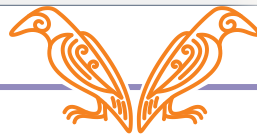
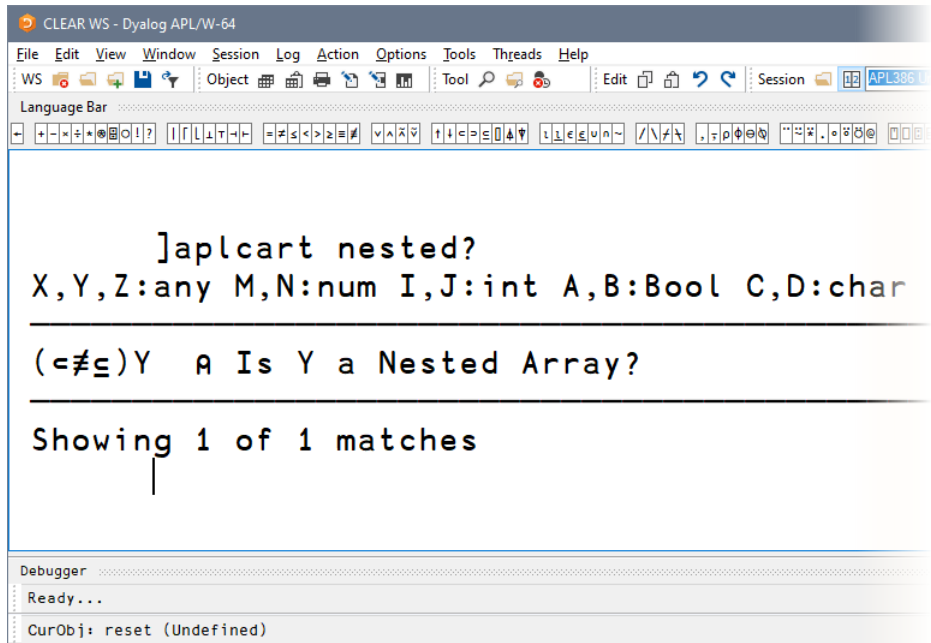
]TOOLS.APLCart

Display in session



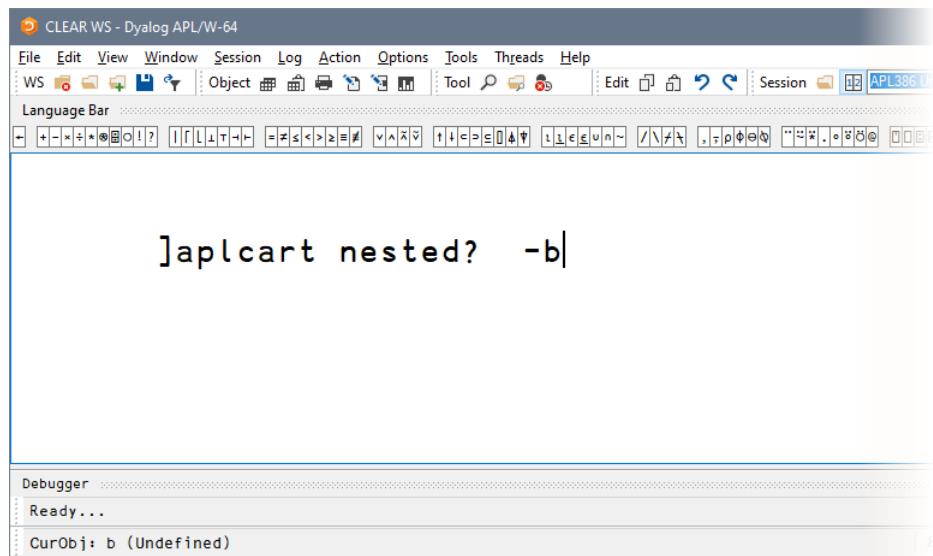
]TOOLS.APLCart

- Display in session



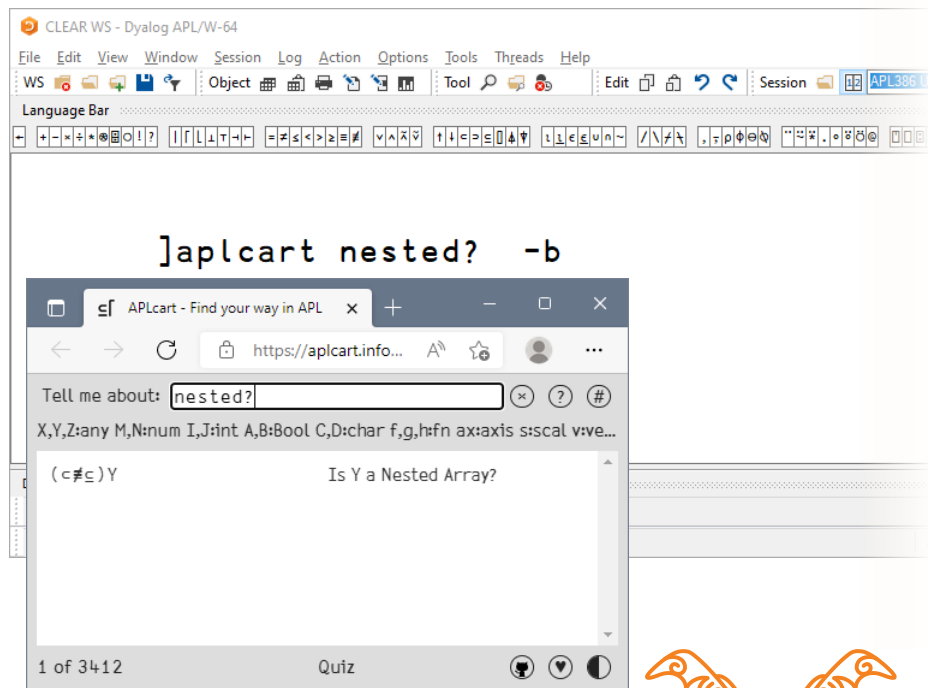
]TOOLS.APLCart

- Display in session
- Display in browser



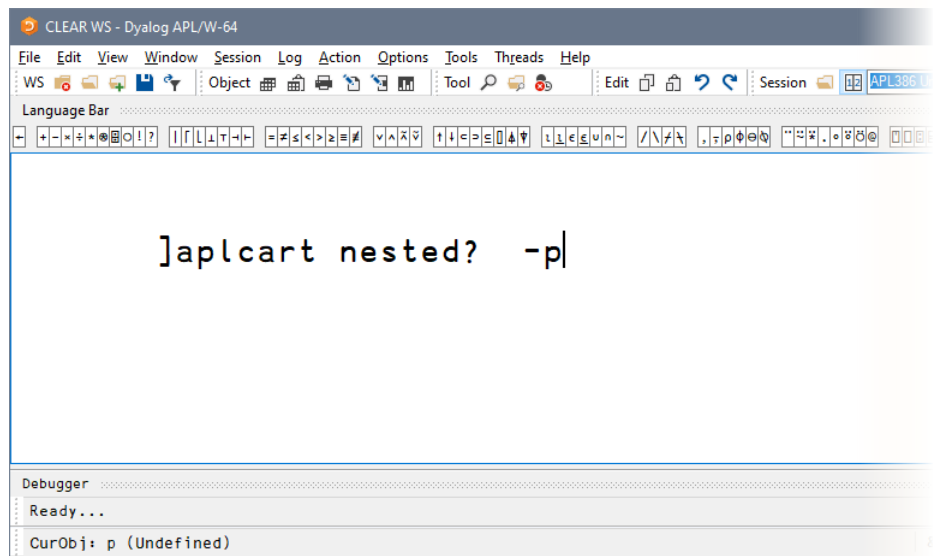
]TOOLS.APLCart

- Display in session
- Display in browser



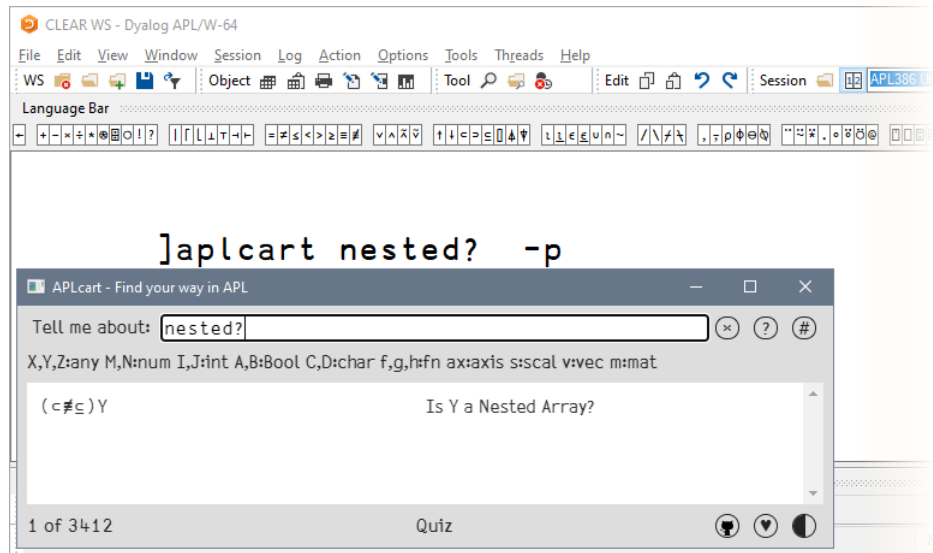
]TOOLS.APLCart

- Display in session
- Display in browser
- Display in popup



]TOOLS.APLCart

- Display in session
- Display in browser
- Display in popup



`]OUTPUT.View`

`]WS.Names`

`]TOOLS.APLCart`

`]OUTPUT.Repr`

`]EXPERIMENTAL.Get`



]OUTPUT.Repr

]repr *expression*



]OUTPUT.Repr

]repr *expression* -format=APL

single-line APL expression

APLAN

APL Array Notation

JS

JavaScript for inclusion in code

JSON

JavaScript Object Notation

XML

Extensible Markup Language

CSV

Comma-Separated Values

,

SSV

Semicolon-Separated Values

;

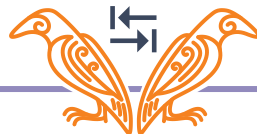
PSV

Pipe-Separated Values

|

TSV

Tab-Separated Values



]OUTPUT.Repr

]repr *expression* -format=*format*



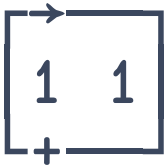
]OUTPUT.Repr

]repr *expression* -format=*format* -outfile=*filename*



]OUTPUT.Repr

]display var



]repr var

1 '1'



]OUTPUT.Repr

```
]repr +÷1[≠  
(+÷)÷(1[≠)
```

```
Merge←ι≠ö¬[]◦⊃ö0[]ö0 99  
]repr Merge  
Merge←((ι≠)ö¬)(([]◦⊃)ö0)([]ö0 99)
```



]OUTPUT.Repr

```
]repr ι1 2 -f=aplan  
[  
  (  
    1 1  
    1 2  
  )  
]
```



]OUTPUT.Repr

```
]repr Hook
⌈FX' Hook←{' '      α←ω' '      ω ωω~αα ω' ' ' }'
      ]repr Hook -f=aplan
Hook←{
    α←ω
    ω ωω~αα ω
}
```



]OUTPUT.Repr

```
'ns.sub'␣NS⊖  
ns.sub.val←,42  
]repr ns -f=aplan  
(  
  sub:(  
    val:(42⋄)  
  )  
)
```



]OUTPUT.Repr

```
'ns.sub'␣NS␣  
ns.sub.val←,42  
]repr ns -f=js  
  
{  
  sub: {  
    val: [42],  
  },  
}
```

```
]repr ns -f=json  
  
{  
  "sub": {  
    "val": [42]  
  }  
}
```



]OUTPUT.Repr

```
'ns.sub'␣NS␣  
ns.sub.val←,42  
]repr ns -f=js
```

```
{  
  sub: {  
    val: [42],  
  },  
}
```

```
]repr ns -f=js
```

```
{  
  "sub": {  
    "val": [42]  
  }  
}
```



]OUTPUT.Repr

```
]JSON('HighRank' 'Split')('Compact' 0)⌈m
[
  [
    1,
    2
  ],
  [
    3,
    4
  ]
]

]repr -f=json 2 2p14
[[1,2],
 [3,4]]
```



]OUTPUT.Repr

```
]repr 3 3pi9 -f=xml  
<array>  
  <shape>3 3</shape>  
  <list>1 2 3 4 5 6 7 8 9</list>  
</array>
```



]OUTPUT.Repr

```
]repr 3 3p19 -f=csv
```

```
1,2,3
```

```
4,5,6
```

```
7,8,9
```



]OUTPUT.Repr

```
]repr 3 3p19 -f=ssv
```

```
1;2;3
```

```
4;5;6
```

```
7;8;9
```



`]OUTPUT.View`

`]WS.Names`

`]TOOLS.APLCart`

`]OUTPUT.Repr`

`]EXPERIMENTAL.Get`



Next Webinar

May 12: Getting Data and Code into the Workspace
featuring]EXPERIMENTAL.Get

Remember: BAA webinars every other week
britishaplassociation.org/webinar-schedule-2022
April 21st, May 5th, May 19th, June 2nd, etc.

More at: apl.wiki/activities

