The ooRexx decimalFormat Class

Date: Nov. 16, 2007
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Purpose: To provide a simple means to format a decimal number.
Requires: decimalFormat.cls
Version: Beta .2

Methods

new   formatter = .decimalFormat~new(optional pattern)
                 If pattern is not specified, the default pattern "#,###.##' will
                 be used.

format   a_result = formatter~format(number)
                 Returns a result with "number" formatted according to the set
                 pattern.

getVersion   a_result = formatter~getVersion
                 Returns the current version of the decimalFormat class

getGrouping   a_result = formatter~getGrouping(pattern)
                 Returns .true/.false for the pattern specified
                 ("N"egative/"P"ositive/"B"oth) If B is specified, a_result will
                 have the positive grouping,negative grouping.

setGrouping   formatter~setGrouping(pattern,.true/.false)
                 Will set grouping on/off for the pattern specified (PNB)

Attributes

groupingSize	get	a_result = formatter~groupingSize (Default is 3)
	set	formatter~groupingSize = numeric whole number
decimalSeparator	get	a_result = formatter~decimalSeparator (Default is '.')
	set	formatter~decimalSeparator = single length character that is not a duplicate of the groupingSeparator.
groupingSeparator	get	a_result = formatter~groupingSeparator (Default is ',')
	set	formatter~groupingSeparator = single length character that is not a duplicate of the decimalSeparator.
pattern	get	a_result = formatter~pattern (Default is '#,###.##')
	set	formatter~pattern = a valid pattern as described below
pPrefix	get	a_result = formatter~pPrefix
		Returns the current prefix for a positive number
	set	formatter~pPrefix = '$'
		Sets the prefix for a positive number
pPattern	get	a_result = formatter~pPattern
		Return the *mask* portion of the positive pattern.
	set	formatter~pPattern = '#,##0.00'
		Sets only the *mask* portion of the positive pattern.
pSuffix	get	a_result = formatter~pSuffix
		Returns the current suffix for a positive number
	set	formatter~pSuffix = ' DB'
		Sets the suffix for a positive number
nPrefix	get	a_result = formatter~nPrefix
		Returns the current prefix for a negative number
	set	formatter~pPrefix = '$'
		Sets the prefix for a negative number
nPattern	get	a_result = formatter~nPattern
		Return the *mask* portion of the negative pattern.
	set	formatter~pPattern = '#,##0.00'
		Sets only the *mask* portion of the negative pattern.
nSuffix	get	a_result = formatter~nSuffix
		Returns the current suffix for a negative number
	set	formatter~pSuffix = ' DB'
		Sets the suffix for a negative number
zPattern	get	a_result = formatter~zPattern
		Returns the current pattern for a zero number
	set	formatter~zPattern = '[0]'
		Sets the pattern for a zero number

Patterns

A pattern can be from 1 to 3 sub-patterns with the sub-patterns separated by a semi-colon ';'.

The first sub-pattern will be applied to positive values.
The second sub-pattern will be applied to negative values.
The third sub-pattern will be applied to a 0 value.

If only one sub-pattern is specified, the same pattern will be applied to positive, negative, and 0 values. A negative value will be preceded with the default minus sign '-'. A 0 value is treated as a positive value.

The positive and negative sub-patterns can have from 1 to 3 parts:
Part 1 –   A string prefix enclosed in quotes
Part 2 –   A pattern "mask"
Part 3 –   A string suffix enclosed in quotes

Note: A negative sub-pattern does not have to repeat the mask, if the same mask is to be used – only the prefix & suffix need be supplied.

The zero sub-pattern has 1 part:
Part 1 –   A string value enclosed in quotes (.nil can also be used, but it must NOT be quoted)

Pattern Masks

Each pattern mask has 4 reserved symbols

\#   A pound/hash symbol represents an "expendable" place holder. If the formatted result has a corresponding value, the \# will be replaced with the corresponding value.

0   A zero represents a "non-expendable" place holder. If the formatted result has a corresponding value the 0 will be replaced with the corresponding value. If there is not a corresponding value, the 0 will remain as the place holder.

,   A comma signifies that each "thousands" group is to be separated with a comma.

.   A period signifies the integer and decimal separator. Results are rounded, according to ooRexx format rules, based on the number of place holders in the decimal portion of the number argument.

Note: If a filler string is required, it should be part of either the prefix or suffix.

Pattern Examples and Corresponding Results

```
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decimalFormat Version..: Beta .2


Full
"$"#,##0.00;"-$"####.##;"[0]"


pPattern
#,##0.00
#,##0.00
0,000.00


pPrefix
$
$
CD
"CD "0,000.00;"-$"####.##;[0]


pSuffix
-><-
-><-
-> CR<-
"CD "0,000.00" CR";"-$"####.##;[0]


nPattern
####.##
####.##
#,##0.00


nPrefix
-$
-$
-CD(
"CD "0,000.00" CR";"-CD("#,##0.00" CR";[0]


nSuffix
-> CR<-
-> CR<-
->)<-
"CD "0,000.00" CR";"-CD("#,##0.00")";[0]


zPattern
[0]
[0]
->The NIL object<-
"CD "0,000.00" CR";"-CD("#,##0.00")";The NIL object
```

```
1 Pattern Is ->('#,###.##')<->Grouping Size Is -> 3 <-
        UnFormatted           Formatted Test #
-------------------- -------------------- ------
            10193390          10,193,390       1
         10193390.00          10,193,390       2
         10193390.49       10,193,390.49       3
         10193390.51       10,193,390.51       4
        10193390.513       10,193,390.51       5
        10193390.515       10,193,390.52       6
                   0                   0       7
                  .1                  .1       8
                 .11                 .11       9
                 .15                 .15      10
                .114                 .11      11
                .115                 .12      12
           110193390         110,193,390      13
           -10193390         -10,193,390      14
        -10193390.00         -10,193,390      15
        -10193390.49      -10,193,390.49      16
        -10193390.51      -10,193,390.51      17
       -10193390.513      -10,193,390.51      18
       -10193390.515      -10,193,390.52      19
                   0                   0      20
                -0.1                 -.1      21
               -0.11                -.11      22
               -0.15                -.15      23
              -0.114                -.11      24
              -0.115                -.12      25

2 Pattern Is ->('#')<->Grouping Size Is -> 3 <-
        UnFormatted           Formatted Test #
-------------------- -------------------- ------
            10193390            10193390      26
         10193390.00            10193390      27
         10193390.49            10193390      28
         10193390.51            10193391      29
        10193390.513            10193391      30
        10193390.515            10193391      31
                   0                   0      32
                  .1                   0      33
                 .11                   0      34
                 .15                   0      35
                .114                   0      36
                .115                   0      37
           110193390           110193390      38
           -10193390           -10193390      39
        -10193390.00           -10193390      40
        -10193390.49           -10193390      41
        -10193390.51           -10193391      42
       -10193390.513           -10193391      43
       -10193390.515           -10193391      44
                   0                   0      45
                -0.1                   0      46
               -0.11                   0      47
               -0.15                   0      48
              -0.114                   0      49
              -0.115                   0      50
```

```
3 Pattern Is ->('#.##')<->Grouping Size Is -> 3 <-
        UnFormatted            Formatted Test #
-------------------- -------------------- ------
            10193390             10193390     51
         10193390.00             10193390     52
         10193390.49          10193390.49     53
         10193390.51          10193390.51     54
        10193390.513          10193390.51     55
        10193390.515          10193390.52     56
                   0                    0     57
                  .1                   .1     58
                 .11                  .11     59
                 .15                  .15     60
                .114                  .11     61
                .115                  .12     62
           110193390            110193390     63
           -10193390            -10193390     64
        -10193390.00            -10193390     65
        -10193390.49         -10193390.49     66
        -10193390.51         -10193390.51     67
       -10193390.513         -10193390.51     68
       -10193390.515         -10193390.52     69
                   0                    0     70
                -0.1                  -.1     71
               -0.11                 -.11     72
               -0.15                 -.15     73
              -0.114                 -.11     74
              -0.115                 -.12     75

4 Pattern Is ->('#.00')<->Grouping Size Is -> 3 <-
        UnFormatted            Formatted Test #
-------------------- -------------------- ------
            10193390          10193390.00     76
         10193390.00          10193390.00     77
         10193390.49          10193390.49     78
         10193390.51          10193390.51     79
        10193390.513          10193390.51     80
        10193390.515          10193390.52     81
                   0                    0     82
                  .1                  .10     83
                 .11                  .11     84
                 .15                  .15     85
                .114                  .11     86
                .115                  .12     87
           110193390         110193390.00     88
           -10193390         -10193390.00     89
        -10193390.00         -10193390.00     90
        -10193390.49         -10193390.49     91
        -10193390.51         -10193390.51     92
       -10193390.513         -10193390.51     93
       -10193390.515         -10193390.52     94
                   0                    0     95
                -0.1                 -.10     96
               -0.11                 -.11     97
               -0.15                 -.15     98
              -0.114                 -.11     99
              -0.115                 -.12    100
```

```
5 Pattern Is ->('0.00')<->Grouping Size Is -> 3 <-
       UnFormatted           Formatted Test #
-------------------- -------------------- ------
            10193390         10193390.00    101
         10193390.00         10193390.00    102
         10193390.49         10193390.49    103
         10193390.51         10193390.51    104
        10193390.513         10193390.51    105
        10193390.515         10193390.52    106
                   0                   0    107
                  .1                0.10    108
                 .11                0.11    109
                 .15                0.15    110
                .114                0.11    111
                .115                0.12    112
           110193390        110193390.00    113
           -10193390        -10193390.00    114
        -10193390.00        -10193390.00    115
        -10193390.49        -10193390.49    116
        -10193390.51        -10193390.51    117
       -10193390.513        -10193390.51    118
       -10193390.515        -10193390.52    119
                   0                   0    120
                -0.1               -0.10    121
               -0.11               -0.11    122
               -0.15               -0.15    123
              -0.114               -0.11    124
              -0.115               -0.12    125

6 Pattern Is ->('#,##.00')<->Grouping Size Is -> 3 <-
       UnFormatted           Formatted Test #
-------------------- -------------------- ------
            10193390       10,193,390.00    126
         10193390.00       10,193,390.00    127
         10193390.49       10,193,390.49    128
         10193390.51       10,193,390.51    129
        10193390.513       10,193,390.51    130
        10193390.515       10,193,390.52    131
                   0                   0    132
                  .1                 .10    133
                 .11                 .11    134
                 .15                 .15    135
                .114                 .11    136
                .115                 .12    137
           110193390      110,193,390.00    138
           -10193390      -10,193,390.00    139
        -10193390.00      -10,193,390.00    140
        -10193390.49      -10,193,390.49    141
        -10193390.51      -10,193,390.51    142
       -10193390.513      -10,193,390.51    143
       -10193390.515      -10,193,390.52    144
                   0                   0    145
                -0.1                -.10    146
               -0.11                -.11    147
               -0.15                -.15    148
              -0.114                -.11    149
              -0.115                -.12    150
```

```
7 Pattern Is ->('"$"#,##0.00')<->Grouping Size Is -> 3 <-
        UnFormatted           Formatted Test #
-------------------- -------------------- ------
            10193390        $10,193,390.00    151
         10193390.00        $10,193,390.00    152
         10193390.49        $10,193,390.49    153
         10193390.51        $10,193,390.51    154
        10193390.513        $10,193,390.51    155
        10193390.515        $10,193,390.52    156
                   0                    $0    157
                  .1                 $0.10    158
                 .11                 $0.11    159
                 .15                 $0.15    160
                .114                 $0.11    161
                .115                 $0.12    162
           110193390       $110,193,390.00    163
           -10193390       -$10,193,390.00    164
        -10193390.00       -$10,193,390.00    165
        -10193390.49       -$10,193,390.49    166
        -10193390.51       -$10,193,390.51    167
       -10193390.513       -$10,193,390.51    168
       -10193390.515       -$10,193,390.52    169
                   0                    $0    170
                -0.1                -$0.10    171
               -0.11                -$0.11    172
               -0.15                -$0.15    173
              -0.114                -$0.11    174
              -0.115                -$0.12    175

8 Pattern Is ->('"$"#,##0.00;"-$"#,##0.00')<->Grouping Size Is -> 3 <-
        UnFormatted           Formatted Test #
-------------------- -------------------- ------
            10193390        $10,193,390.00    176
         10193390.00        $10,193,390.00    177
         10193390.49        $10,193,390.49    178
         10193390.51        $10,193,390.51    179
        10193390.513        $10,193,390.51    180
        10193390.515        $10,193,390.52    181
                   0                    $0    182
                  .1                 $0.10    183
                 .11                 $0.11    184
                 .15                 $0.15    185
                .114                 $0.11    186
                .115                 $0.12    187
           110193390       $110,193,390.00    188
           -10193390       -$10,193,390.00    189
        -10193390.00       -$10,193,390.00    190
        -10193390.49       -$10,193,390.49    191
        -10193390.51       -$10,193,390.51    192
       -10193390.513       -$10,193,390.51    193
       -10193390.515       -$10,193,390.52    194
                   0                    $0    195
                -0.1                -$0.10    196
               -0.11                -$0.11    197
               -0.15                -$0.15    198
              -0.114                -$0.11    199
              -0.115                -$0.12    200
```

```
9 Pattern Is ->('"$"#,##0.00;"-$"#,###.##')<->Grouping Size Is -> 3 <-
        UnFormatted              Formatted Test #
-------------------- -------------------- ------
            10193390        $10,193,390.00    201
         10193390.00        $10,193,390.00    202
         10193390.49        $10,193,390.49    203
         10193390.51        $10,193,390.51    204
        10193390.513        $10,193,390.51    205
        10193390.515        $10,193,390.52    206
                   0                    $0    207
                  .1                 $0.10    208
                 .11                 $0.11    209
                 .15                 $0.15    210
                .114                 $0.11    211
                .115                 $0.12    212
           110193390       $110,193,390.00    213
           -10193390          -$10,193,390    214
        -10193390.00          -$10,193,390    215
        -10193390.49       -$10,193,390.49    216
        -10193390.51       -$10,193,390.51    217
       -10193390.513       -$10,193,390.51    218
       -10193390.515       -$10,193,390.52    219
                   0                    $0    220
                -0.1                  -$.1    221
               -0.11                 -$.11    222
               -0.15                 -$.15    223
              -0.114                 -$.11    224
              -0.115                 -$.12    225


10 Pattern Is ->('"$"#,##0.00" DB";"-$"" CR"')<->Grouping Size Is -> 3 <-
        UnFormatted              Formatted Test #
-------------------- -------------------- ------
            10193390     $10,193,390.00 DB    226
         10193390.00     $10,193,390.00 DB    227
         10193390.49     $10,193,390.49 DB    228
         10193390.51     $10,193,390.51 DB    229
        10193390.513     $10,193,390.51 DB    230
        10193390.515     $10,193,390.52 DB    231
                   0                 $0 DB    232
                  .1              $0.10 DB    233
                 .11              $0.11 DB    234
                 .15              $0.15 DB    235
                .114              $0.11 DB    236
                .115              $0.12 DB    237
           110193390    $110,193,390.00 DB    238
           -10193390    -$10,193,390.00 CR    239
        -10193390.00    -$10,193,390.00 CR    240
        -10193390.49    -$10,193,390.49 CR    241
        -10193390.51    -$10,193,390.51 CR    242
       -10193390.513    -$10,193,390.51 CR    243
       -10193390.515    -$10,193,390.52 CR    244
                   0                 $0 DB    245
                -0.1             -$0.10 CR    246
               -0.11             -$0.11 CR    247
               -0.15             -$0.15 CR    248
              -0.114             -$0.11 CR    249
              -0.115             -$0.12 CR    250
```

```
11 Pattern Is ->('#,##0.00;"("")";'.nil)<->Grouping Size Is -> 3 <-
         UnFormatted            Formatted Test #
   --------------------  --------------------  ------
            10193390          10,193,390.00    251
         10193390.00          10,193,390.00    252
         10193390.49          10,193,390.49    253
         10193390.51          10,193,390.51    254
        10193390.513          10,193,390.51    255
        10193390.515          10,193,390.52    256
                   0          The NIL object    257
                  .1                   0.10    258
                 .11                   0.11    259
                 .15                   0.15    260
                .114                   0.11    261
                .115                   0.12    262
           110193390         110,193,390.00    263
           -10193390         (10,193,390.00)   264
        -10193390.00         (10,193,390.00)   265
        -10193390.49         (10,193,390.49)   266
        -10193390.51         (10,193,390.51)   267
       -10193390.513         (10,193,390.51)   268
       -10193390.515         (10,193,390.52)   269
                   0          The NIL object    270
                -0.1                  (0.10)    271
               -0.11                  (0.11)    272
               -0.15                  (0.15)    273
              -0.114                  (0.11)    274
              -0.115                  (0.12)    275


12 Pattern Is ->('#,##0.00;"("")";"[0]"')<->Grouping Size Is -> 3 <-
         UnFormatted            Formatted Test #
   --------------------  --------------------  ------
            10193390          10,193,390.00    276
         10193390.00          10,193,390.00    277
         10193390.49          10,193,390.49    278
         10193390.51          10,193,390.51    279
        10193390.513          10,193,390.51    280
        10193390.515          10,193,390.52    281
                   0                    [0]    282
                  .1                   0.10    283
                 .11                   0.11    284
                 .15                   0.15    285
                .114                   0.11    286
                .115                   0.12    287
           110193390         110,193,390.00    288
           -10193390         (10,193,390.00)   289
        -10193390.00         (10,193,390.00)   290
        -10193390.49         (10,193,390.49)   291
        -10193390.51         (10,193,390.51)   292
       -10193390.513         (10,193,390.51)   293
       -10193390.515         (10,193,390.52)   294
                   0                    [0]    295
                -0.1                  (0.10)    296
               -0.11                  (0.11)    297
               -0.15                  (0.15)    298
              -0.114                  (0.11)    299
              -0.115                  (0.12)    300
```

```
13 Pattern Is ->('0.000')<->Grouping Size Is -> 3 <-
        UnFormatted              Formatted Test #
-------------------- -------------------- ------
            10193390          10193390.000    301
         10193390.00          10193390.000    302
         10193390.49          10193390.490    303
         10193390.51          10193390.510    304
        10193390.513          10193390.513    305
        10193390.515          10193390.515    306
                   0                     0    307
                  .1                 0.100    308
                 .11                 0.110    309
                 .15                 0.150    310
                .114                 0.114    311
                .115                 0.115    312
           110193390         110193390.000    313
           -10193390         -10193390.000    314
        -10193390.00         -10193390.000    315
        -10193390.49         -10193390.490    316
        -10193390.51         -10193390.510    317
       -10193390.513         -10193390.513    318
       -10193390.515         -10193390.515    319
                   0                     0    320
                -0.1                -0.100    321
               -0.11                -0.110    322
               -0.15                -0.150    323
              -0.114                -0.114    324
              -0.115                -0.115    325

14 Pattern Is ->('#,###.##')<->Grouping Size Is -> 4 <-
        UnFormatted              Formatted Test #
-------------------- -------------------- ------
            10193390             1019,3390    326
         10193390.00             1019,3390    327
         10193390.49          1019,3390.49    328
         10193390.51          1019,3390.51    329
        10193390.513          1019,3390.51    330
        10193390.515          1019,3390.52    331
                   0                     0    332
                  .1                    .1    333
                 .11                   .11    334
                 .15                   .15    335
                .114                   .11    336
                .115                   .12    337
           110193390           1,1019,3390    338
           -10193390            -1019,3390    339
        -10193390.00            -1019,3390    340
        -10193390.49         -1019,3390.49    341
        -10193390.51         -1019,3390.51    342
       -10193390.513         -1019,3390.51    343
       -10193390.515         -1019,3390.52    344
                   0                     0    345
                -0.1                   -.1    346
               -0.11                  -.11    347
               -0.15                  -.15    348
              -0.114                  -.11    349
              -0.115                  -.12    350
```

```
15 Pattern Is ->('#,##0.00')<->Grouping Size Is -> 4 <-
        UnFormatted          Formatted Test #
-------------------- -------------------- ------
          10193390         1019,3390.00    351
       10193390.00         1019,3390.00    352
       10193390.49         1019,3390.49    353
       10193390.51         1019,3390.51    354
      10193390.513         1019,3390.51    355
      10193390.515         1019,3390.52    356
                 0                    0    357
                .1                 0.10    358
               .11                 0.11    359
               .15                 0.15    360
              .114                 0.11    361
              .115                 0.12    362
         110193390       1,1019,3390.00    363
         -10193390        -1019,3390.00    364
      -10193390.00        -1019,3390.00    365
      -10193390.49        -1019,3390.49    366
      -10193390.51        -1019,3390.51    367
     -10193390.513        -1019,3390.51    368
     -10193390.515        -1019,3390.52    369
                 0                    0    370
              -0.1                -0.10    371
             -0.11                -0.11    372
             -0.15                -0.15    373
            -0.114                -0.11    374
            -0.115                -0.12    375

16 Pattern Is ->('"€"#,##0.00;"-€"#,##0.00;"[0]"')<->Grouping Size Is -> 3 <-
        UnFormatted          Formatted Test #
-------------------- -------------------- ------
          10193390        €10.193.390,00    376
       10193390.00        €10.193.390,00    377
       10193390.49        €10.193.390,49    378
       10193390.51        €10.193.390,51    379
      10193390.513        €10.193.390,51    380
      10193390.515        €10.193.390,52    381
                 0                  [0]    382
                .1                €0,10    383
               .11                €0,11    384
               .15                €0,15    385
              .114                €0,11    386
              .115                €0,12    387
         110193390       €110.193.390,00    388
         -10193390       -€10.193.390,00    389
      -10193390.00       -€10.193.390,00    390
      -10193390.49       -€10.193.390,49    391
      -10193390.51       -€10.193.390,51    392
     -10193390.513       -€10.193.390,51    393
     -10193390.515       -€10.193.390,52    394
                 0                  [0]    395
              -0.1               -€0,10    396
             -0.11               -€0,11    397
             -0.15               -€0,15    398
            -0.114               -€0,11    399
            -0.115               -€0,12    400
```