

Even , Odd $u \dots v$ $u \dots v$

```

u .. v ↔ (u + u&v) % 2:
u .: v ↔ (u - u&v) % 2:
    
```

In the most commonly used case, v is arithmetic negation, and $f=: u \dots v$ is therefore $f=: (u + u&-) % 2:$; that is, one-half the sum of $u \ y$ and $u \ -y$. The resulting function is therefore even in the sense that $f \ y \leftrightarrow f \ -y$ for any y ; its graph is reflected in the vertical axis. Similarly, $u \ .: -$ is odd ($f \ y \leftrightarrow -f \ -y$), and its graph is reflected in the origin. Less commonly, v is matrix transpose ($| :$), and may be any monadic function.

```

y=: _2 _1 0 1 2
1 2 3 4 5 & p. y           Polynomial with odd and even terms
57 3 1 15 129
    
```

```

1 2 3 4 5 & p. .. - y     Even part of polynomial
93 9 1 9 93
    
```

```

1 0 3 0 5 & p. y         Polynomial with even terms only
93 9 1 9 93
    
```

```

E=: .. -                 Even adverb
O=: .: -                 Odd adverb
d=: 5j2&" :@, .&. >     Display as columns with two digits.
    
```

```

d (5&o. ; ^O ; 6&o. ; ^E ; ^ ; (^E + ^O) ; 2&o. ; ^@j.E) y
    
```

_-3.63	_-3.63	3.76	3.76	0.14	0.14	_-0.42	_-0.42
_-1.18	_-1.18	1.54	1.54	0.37	0.37	0.54	0.54
0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
1.18	1.18	1.54	1.54	2.72	2.72	0.54	0.54
3.63	3.63	3.76	3.76	7.39	7.39	_-0.42	_-0.42

```

m=: ?. 4 4 $ 9
(] ; (] .. |:) ; (] .: |:)) m
    
```

1	6	4	4	1	3.5	6	2	0	2.5	_-2	2
1	0	6	6	3.5	0	4.5	3	_-2.5	0	1.5	3
8	3	4	7	6	4.5	4	5.5	2	_-1.5	0	1.5
0	0	4	6	2	3	5.5	6	_-2	_-3	_-1.5	0