

Tie m`n m`v u`n u`v

In English, a gerund is a noun that carries the force of a verb, as does the noun cooking in the art of cooking. The tie applies to two verbs to produce a gerund. Gerunds are commonly used with insert (/) and with agenda (@.):

```
]g=: +`*
+---+
|+|*|
+---+

(g/1 2 3 4 5) ; (1+2*3+4*5)
+---+
|47|47|
+---+
```

More generally, tie produces gerunds as follows: u`v is au,av, where au and av are the (boxed noun) atomic representations (5! : 1) of u and v. Moreover, m`n is m,n and m`v is m,av and u`n is au,n. See Bernecky and Hui [12]. Gerunds may also be produced directly by boxing. Thus:

```
]h=: '+' ; '*'
+---+
|+|*|
+---+

h/1 2 3 4 5
47
```

The atomic representation of a noun (used so as to distinguish a noun such as '+' from the verb +) is given by the following function:

```
(ar=: [: < (,'0')"_ ; ]) '+'
+-----+
|+---+|
||0|+||
|+---+|
+-----+

*`(ar '+' )
+-----+
|*|+---+|
||0|+||
|+---+|
+-----+
```