



* Consecutive Array for polynomial

$$x^6 + 2x^4 + 5$$

0	1	2	3	4	5	6
5	0	0	0	2	0	1

(Dense Array)

"waste" saving the "0" (no help in +, *)

\Downarrow remove 0's

(5,0)	(2,4)	(1,6)
-------	-------	-------

Sparse Array

using Ordered Pair Array
useful in natural lang. processing
scientific computing
etc.

* traversal of Ordered Pair Array [5]:

"+" , "inner product" , etc.

put two "chesses" in each array,
advance the chess w/ lower order

(5,0)	(2,4)	(1,6)
-------	-------	-------

(3,1)	(0,4)
-------	-------

+

(5,0)	(3,1)	(9,4)	(1,6)
-------	-------	-------	-------

* if not doing "+", but "+=" ?

need MOVING (cut-in) if use Ordered Pair Array

how to avoid MOVING ?

put (3,1) "somewhere" (say, 3)

	0	1	2	3
	(5,0)	(2,4)	(1,6)	(3,1)
小紙條	3	2	END	1

but want Ordered ?

keep "hint" on next term (in order)

小紙條

more generally



Sparse Array using Ordered Pair Linked List