

* Sparse Matrix in linked list

↓
very few Non zero element

$f(x) + 2x + 3x^2 + 4x^3 = (x)^9$

A

0	→	4	8	/
1	→	3	7	/
2	→	0	5	→ 1 1 /
3	→	0	2	→ 1 5 → 3 2 /
4	→	3	1	/

A

0	1	2	3	4
0	0	0	0	8
1	0	0	0	7
2	5	1	0	0
3	2	5	0	2
4	0	0	0	0

struct Node {

int col;

int val;

struct Node *next;

};

Node

column no | val | next

;(9x9 ← p, x) wog * 790x ← p = t mu2

Node *A[m];

A[0] = new Node;

• To Display a sparse matrix

for (i=0; i < m; i++)

{

P = A[i];

for (j=0; j < n; j++)

{

if (j == p->col)

{ printf("%d", p->val);

p = p->next;

}

else printf("0"); }

* Polynomial Representation using Linked list *

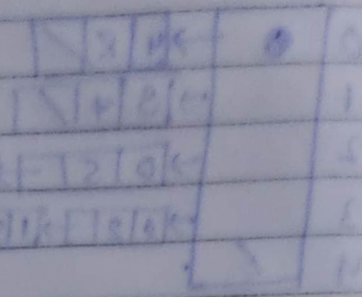
Node

coeff | Exp | next

$$P(x) = 4x^3 + 9x^2 + 6x + 7$$

Struct Node

```
{
    int coeff;
    int exp;
    Struct Node *next;
};
```



```
double Eval(int x)
{
    double sum = 0.0;
    Node *q = p;
    while (q != NULL)
    {
        sum += q->coeff * pow(x, q->exp);
        q = q->next;
    }
}
```