# LCC - TP3 - (9)

Joana Fernandes - 58926

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type Pol = [(Float, Int)]

[(3.4, 3), (2.0, 4), (1.5, 3), (7.1, 5)] :: Pol

$3.4x^3 + 2.0x^4 + 1.5x^3 + 7.1x^5$

a) Defina em C os tipos Pol.

b) float Calc (LPol p, int x)

a)
```
typedef struct Pol
{
    float coef;
    int exp;
    struct Pol *next;
} *LPol, Nodo;
```

b)
```
float Calc (LPol p, int x)
{
    if (p)
        return (p->coef) * (x^(p->exp)) + calc(p->next, x);
    else
        return 0;
}
```

c)
```
int Grau (LPol p)
{
    int maior = -1;
    while (p)
    {
        if (maior < p->exp)
            maior = p->exp;
        p = p->next;
    }
    return maior;
}
```

d)
```
LPol Derivada (LPol p)
{
    LPol n;
    if (!p)
        return NULL;
    else
    {
        if (p->exp > 0)
        {
            n = (LPol) malloc (sizeof (Nodo));
            n->coef = (p->coef) * (p->exp);
```

```
        n→exp = (p→exp) - 1;
        n→next = Derivada (p→next);
        return n;
    }
    return Derivada (p→next);
}
```