Polynomial using C

```
#include <stdio.h>
#include<stdlib.h>

struct Term
{
    int coeff;
    int exp;
};
struct Poly
{
    int n;
    struct Term *terms;
};

void create(struct Poly *p)
{
    int i;
    printf("Number of terms?");
    scanf("%d",&p->n);
    p->terms=(struct Term*)malloc(p->n*sizeof(struct Term));

    printf("Enter terms\n");
    for(i=0;i<p->n;i++)
        scanf("%d%d",&p->terms[i].coeff,&p->terms[i].exp);

}

void display(struct Poly p)
{
    int i;
    for(i=0;i<p.n;i++)
        printf("%dx%d+",p.terms[i].coeff,p.terms[i].exp);
    printf("\n");
}

struct Poly *add(struct Poly *p1,struct Poly *p2)
{
    int i,j,k;
    struct Poly *sum;

    sum=(struct Poly*)malloc(sizeof(struct Poly));
    sum->terms=(struct Term *)malloc((p1->n+p2-
>n)*sizeof(struct Term));
```

```
    i=j=k=0;

    while(i<p1->n && j<p2->n)
    {
        if(p1->terms[i].exp>p2->terms[j].exp)
            sum->terms[k++]=p1->terms[i++];
        else if(p1->terms[i].exp < p2->terms[j].exp)
            sum->terms[k++]=p2->terms[j++];
        else
        {
            sum->terms[k].exp=p1->terms[i].exp;
            sum->terms[k++].coeff=p1->terms[i++].coeff+p2-
>terms[j++].coeff;
        }
    }
    for(;i<p1->n;i++)sum->terms[k++]=p1->terms[i];
    for(;j<p2->n;j++)sum->terms[k++]=p2->terms[j];

    sum->n=k;
    return sum;


}

int main()
{
    struct Poly p1,p2,*p3;

    create(&p1);
    create(&p2);

    p3=add(&p1,&p2);

    printf("\n");
    display(p1);
    printf("\n");
    display(p2);
    printf("\n");
    display(*p3);


    return 0;
}
```