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

struct Node
{
     int coef;
     int expo;
     struct Node* link;
};

void input(struct Node** poly)
{
     int coef, exp, c;
     struct Node* temp = (struct Node*)malloc(sizeof(struct
Node));
     *poly = temp;
    printf("Enter no of terms");
    scanf("%d",&c);
     for (int i = 0; i < c; i++)
    {
          printf("\n Coeffecient: ");
          scanf("%d", &coef);
          printf("\n Exponent: ");
          scanf("%d", &exp);
          temp->coef = coef;
          temp->expo = exp;
          temp->link = (struct Node*)malloc(sizeof(struct
Node));
          temp = temp->link;
          temp->link = NULL;
     }
}

void display(struct Node* poly)
{
     while(poly != NULL)
     {
          printf("%dX^%d", poly->coef, poly->expo);
          poly = poly->link;
          if(poly != NULL)
               printf("+");
     }
}
```

```
void add(struct Node** result, struct Node* first, struct
Node* second)
{
     struct Node* temp = (struct Node*)malloc(sizeof(struct
Node));
     temp->link = NULL;
     *result = temp;
     while(first!=NULL && second!=NULL)
     {
          if(first->expo > second->expo)
          {
               temp->coef = first->coef;
               temp->expo = first->expo;
               first = first->link;
          }
          else if(first->expo < second->expo)
          {
               temp->coef = second->coef;
               temp->expo = second->expo;
               second = second->link;
          }
          else
          {
               temp->coef = first->coef + second->coef;
               temp->expo = first->expo;
               first = first->link;
               second = second->link;
          }

          if(first!=NULL && second!=NULL)
          {
               temp->link = (struct Node*)malloc(sizeof(struct
Node));
               temp = temp->link;
               temp->link = NULL;
          }
     }
     while(first!=NULL || second!=NULL)
     {
          temp->link = (struct Node*)malloc(sizeof(struct
Node));
          temp = temp->link;
          temp->link = NULL;
```

```
          if(first)
          {
               temp->coef = first->coef;
               temp->expo = first->expo;
               first = first->link;
          }

          else if(second)
          {
               temp->coef = second->coef;
               temp->expo = second->expo;
               second = second->link;
          }
     }
}

int main()
{

     struct Node* first = NULL;
     struct Node* second = NULL;
     struct Node* result = NULL;


     printf("\nEnter the First polynomial:\n");
     input(&first);
     printf("\nEnter the Second polynomial:\n");
     input(&second);
     add(&result, first, second);

    printf("\nThe resultant ");
     display(result);
     return 0;
}
```