Polynomial.c

/* Que: Write a program that adds two single variablepolynomials. Each polynomial should be represented as a list with linked list implementation.*/

```
#include<stdio.h>
#include<stdlib.h>
#include<malloc.h>
#include"polynomial.h"

void main()
{
struct node *poly1=NULL,*poly2=NULL,*poly3=NULL;
struct node *create();
void display();
printf("\n Enter elements of first polynomial \n");
poly1=create(poly1);
printf("\nThe first polynomial is \n");
display(poly1);
printf("\n Enter elements of second polynomial \n");
poly2=create(poly2);
printf("\nThe second polynomial is \n");
display(poly2);
printf("\nThe addition of two polynomials is \n");
poly3=add(poly1,poly2,poly3);
display(poly3);
}
/*  Output->

Enter elements of first polynomial

 How many terms : 4

 Enter terms in decreasing order of exponent :
Enter coefficient : 4
Enter exponent : 2
Enter coefficient : 3
Enter exponent : 2
Enter coefficient : 6
Enter exponent : 3
Enter coefficient : 8
Enter exponent : 4

The first polynomial is
4x^2+3x^2+6x^3+8x^4
 Enter elements of second polynomial

 How many terms : 4

 Enter terms in decreasing order of exponent :
Enter coefficient : 5
Enter exponent : 2
```

Enter coefficient : 4
Enter exponent : 6
Enter coefficient : 7
Enter exponent : 2
Enter coefficient : 5
Enter exponent : 4

The second polynomial is
5x^2+4x^6+7x^2+5x^4
The addition of two polynomials is
9x^2+4x^6+7x^2+5x^4
*/