Assignment: 9 (Polynomial Addition)

#include <stdio.h>

typedef struct {

int coeff, power;

} Term;

int readTerm(Term\* term)

{

int coeff, power;

scanf("%d %d", &coeff, &power);

if ((coeff==-1) && (power==-1))

return 0;

term->coeff = coeff;

term->power = power;

return 1;

}

void writeTerm(Term\* term)

{

printf("%d %d", term->coeff, term->power);

}

typedef struct {

Term term[30];

int count;

} Expr;

/\*

void print(Expr\* expr){

for(i=0;i<expr->count;i++){

if(i == expr->count -1)

printf("%d %d\n",expr->temp[i].coeff,expr->term[i].power);

else

printf("%d %d ",expr->temp[i].coeff,expr->term[i].power);

}

} \*/

void writeExpr(Expr\* expr)

{

int i;

for (i=0; i<expr->count-1; i++) {

if (expr->term[i].coeff) {

writeTerm(&expr->term[i]);

printf(" "); /\* creating a problem \*/

}

}

if (expr->term[i].coeff)

writeTerm(&expr->term[i]);

printf("\n");

}

void addTermToExpr(Expr\* expr, Term\* term)

{

int i, j;

for (i=0; i<expr->count; i++) {

if (term->power > expr->term[i].power) break;

else if (term->power == expr->term[i].power) {

expr->term[i].coeff += term->coeff;

return;

}

}

if (i==expr->count) expr->term[expr->count] = \*term;

else {

for (j=expr->count; j>i; j--)

expr->term[j] = expr->term[j-1];

expr->term[i] = \*term;

}

expr->count++;

}

void readExpr(Expr\* expr)

{

Term term;

expr->count = 0;

while (readTerm(&term)) addTermToExpr(expr, &term);

}

int main()

{

Expr expr1, expr2;

int i;

readExpr(&expr1);

readExpr(&expr2);

for (i=0; i<expr2.count; i++)

addTermToExpr(&expr1, &expr2.term[i]);

writeExpr(&expr1);

return 0;

}