18/12/2023

1) Create structure itemdetails with members item_name, quantity, price total amount. calculate party price.

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

struct item_details
{
    char item_name[20];
    float quantity;
    float price;
    float total amount
};

int main()
{
    struct item_details s1 = {"pen", 100.00, 250.00, 00,00};
    printf(%.2f \n", s1.price);
    Printf("%.2f \n", s1.quantity;
    Printf(s1.item_name);
    S1.total_amount = s1.price* s1.quantity;
    printf("%.2f, s1.total_amount );

    struct item_details s2 = {"papad", 10,00, 100,00, 00.00}
    s2.total_amount = s2.price * s2.quantity;
    float total_expense = s1.total_amount + s2.total_amount;
    printf("total party expense: %.2f ", total_expense);
    return 0;
}
```

output

```
total party expense: 36000.00
```

2) Create a structure with name student with structure member : name, usn, gradelist of sem1, sem2. The student will be promoted to 3rd semester if he/she is not having backlogs of credit count >=16.

```
#include <stdio.h>
struct student {
   char name [20];
   int usn;
   int sem1 [4];
   int sem2 [5];
 };

int main (){
   Struct student s1 = {"aaa", 1001, {2,2,3,1}, {2,1,1,2}};
   int sum;
   for (int i=0; i<4 ;i++)
   { sum = sum + ~~s1~~ s1.sem1[i] + s1.sem2[i];
   }
   Printf ("name: %s \n", s1.name);
   printf ("~~usn~~usn: %d\n", s1.usn);
   printf (" total credit : %d \n", sum);
   if (sum<16){
      printf ("the student is eligible for 3rd semester");
   }
   else {
      printf ("the student is not eligible for 3rd semester");
   }
   return 0;
}
```

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output:

```
name: aaa
usn: 1001
totalcredits: 141
the student is eligible for 3rd semester
```

4) Given an array arr[] containing N distances of the inch-feet system, such that each element of the array represents a inch-feet distances using structure

ex: input: arr[] = {{10,3.7},{15,5.5},{6,8}};

output: feet Sum: 26 Inchsum: 17.2

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

void arrcalc(float arr[3][2])
{
    float feet_sum;
    float inch_sum;
    for (int i=0; i<3; ++i)
    {
        feet_sum= feet_sum+arr[i][0];
        inch_sum= inch_sum+arr[i][1];
    }
    printf ("feet sum: %.2f \n", feet_sum);
    printf ("inchsum: %.2f \n", inch_sum);
}

int main()
{
    float arr1[3][2] = {{10.00,3.70},{15.00,5.50},{6.00,8.00}};
    arrcalc(arr1);
    return 0;
}
```

Output:

```
feet sum: 31.00
inch sum: 17.20
```

pointer program

```
#include<stdio.h>

int main()
{
    int var=10;
    int *ptr;
    ptr=&var;

    Printf("var value=%d\n", var);
    printf(" var address=%u\n", &var);
    printf(" ptr=%u\n", ptr);
    printf("*ptr=%d\n", *ptr);
    printf("&ptr=%u\n",&ptr);
```

output:

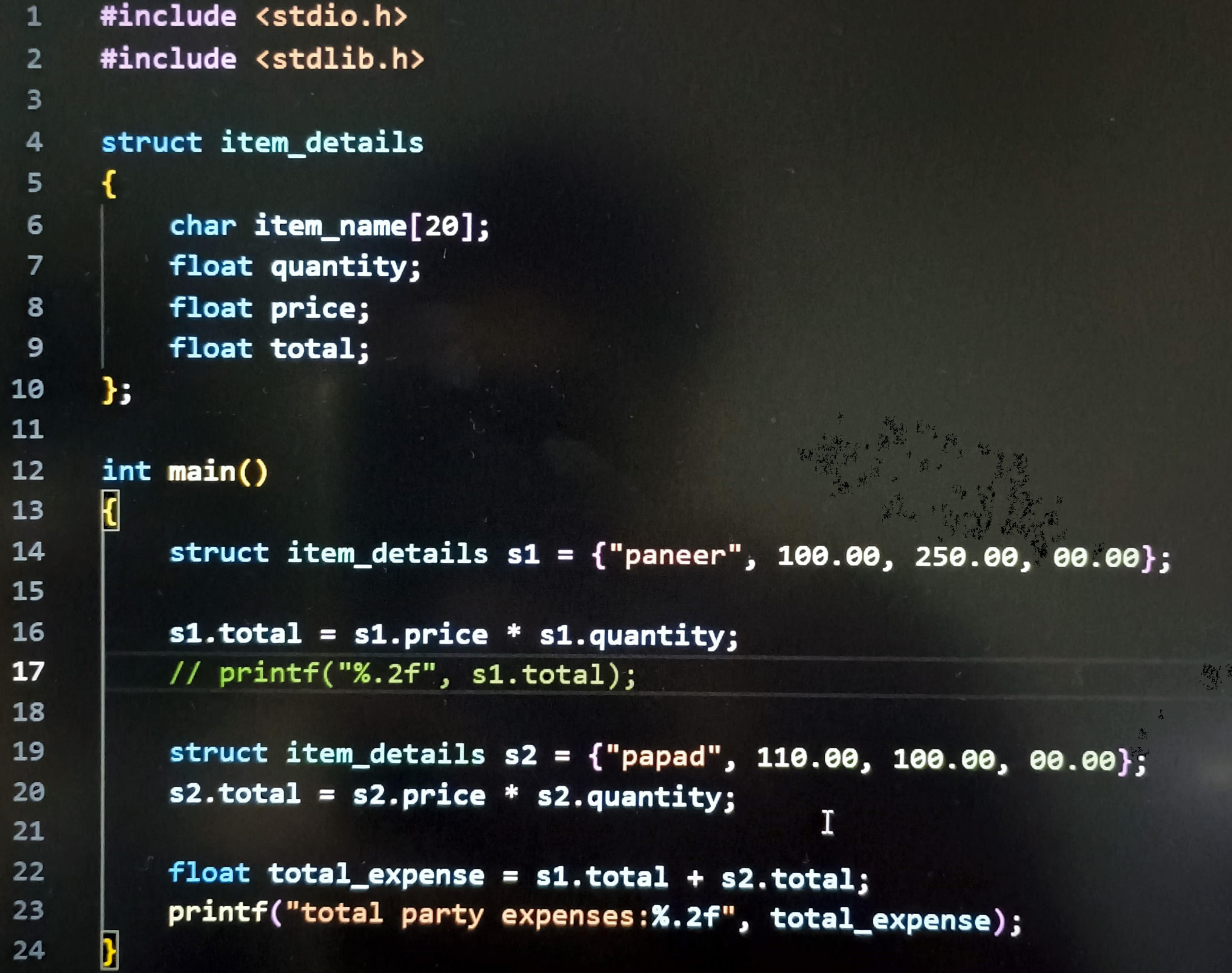
```
    var value = 10
    var address = 6422300
    ptr = 6422300
    *ptr = 10
    &ptr = 6422296
```

pointer and function program

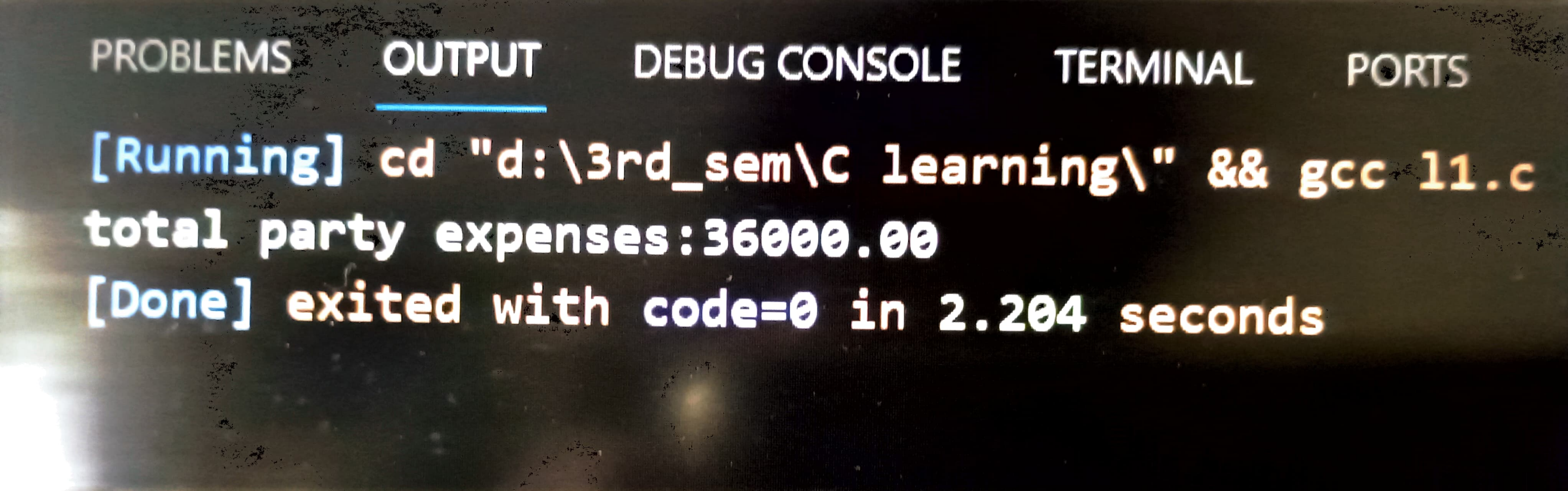
```
#include <stdio.h>
#include <stdlib.h>

void swap(int *x,int *y)
{
        int t;
        t=*x;
        *x=*y;
        *y=t;
}
int main()
{
        int n1,n2;
        printf("enter num1: ");
        scanf("%d",&n1);
        print("enter num2: ");
        scanf("%d",&n2);
printf("before swapping : %d %d\n", n1, n2);
swap (&n1,&n2),
printf("after swapping : %d %d\n", n1, n2);

}
```

array - element insertion in a specified position and deletion in specified position, do this using functions.

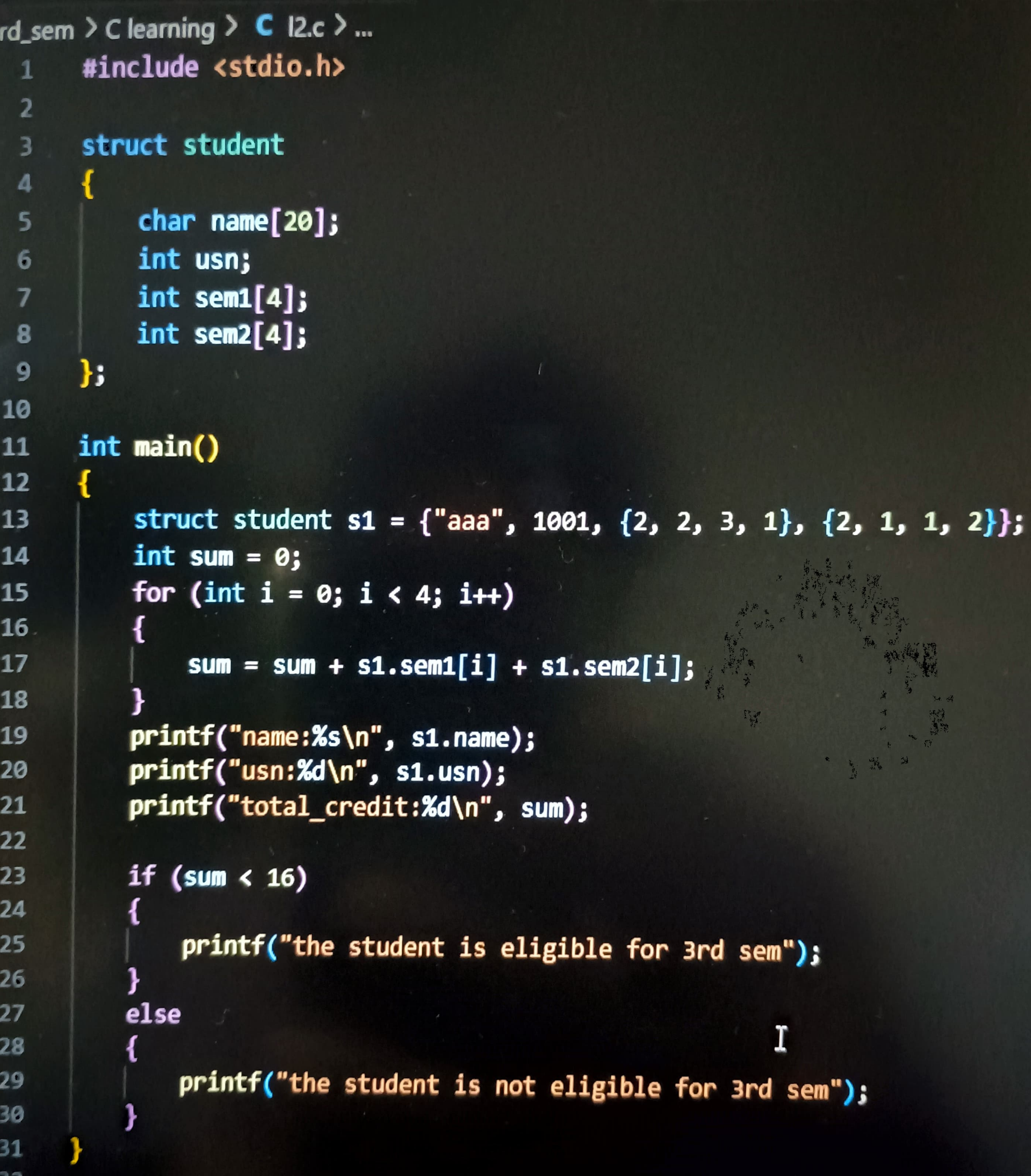
```
#include <stdio.h>

 int arr [5];

 void insertarr(int i, int v)
 {
    arr[i] = v;
  }

 void deletearr (int i)
 {
    for (int i=0; i<5; i++)
     {
       printf("index: %d, value: %d\n", i, arr[i]);
     }
  }

int main( )
{
   insert arr (0,65);
   insert arr (1,95);
   insertarr (2,62);
    displayarr ();
    deletearr (2);
    displayarr ( );
 }
output:
  index 0, Value: 65          index 0, value 65
  index 1, value : 95         index 1, value 95
  index 2, value : 62         index 2, value 0
  index 3, value : 0          index 3, value 0
  index 4, value : 0          index 4, value 0
```



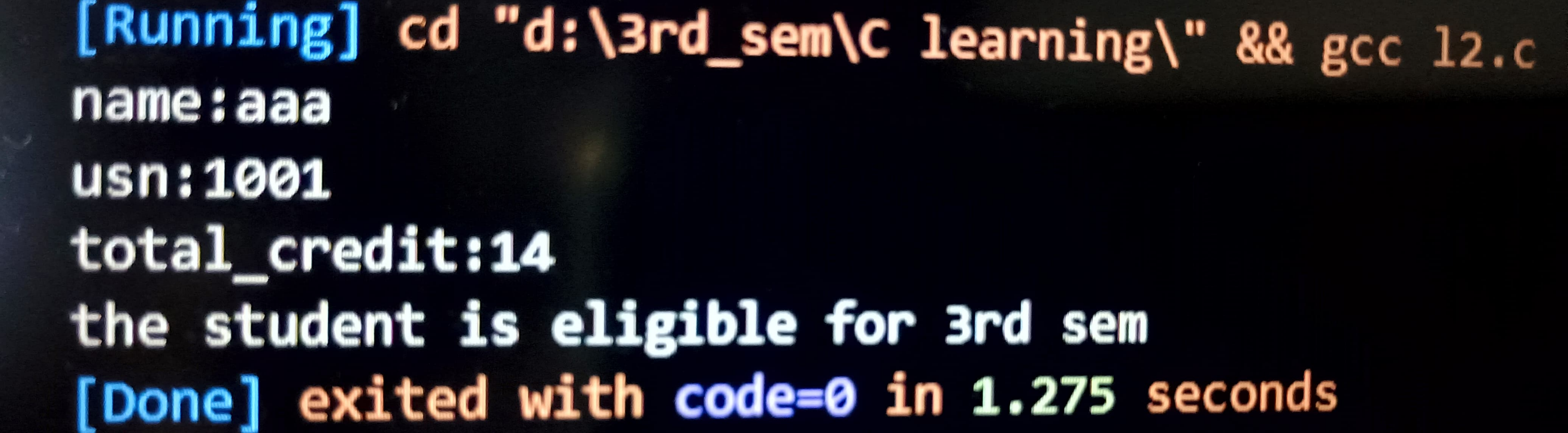
```c
#include <stdio.h>
#include <stdlib.h>

struct item_details
{
    char item_name[20];
    float quantity;
    float price;
    float total;
};

int main()
{
    struct item_details s1 = {"paneer", 100.00, 250.00, 00.00};

    s1.total = s1.price * s1.quantity;
    // printf("%.2f", s1.total);

    struct item_details s2 = {"papad", 110.00, 100.00, 00.00};
    s2.total = s2.price * s2.quantity;

    float total_expense = s1.total + s2.total;
    printf("total party expenses:%.2f", total_expense);
}
```



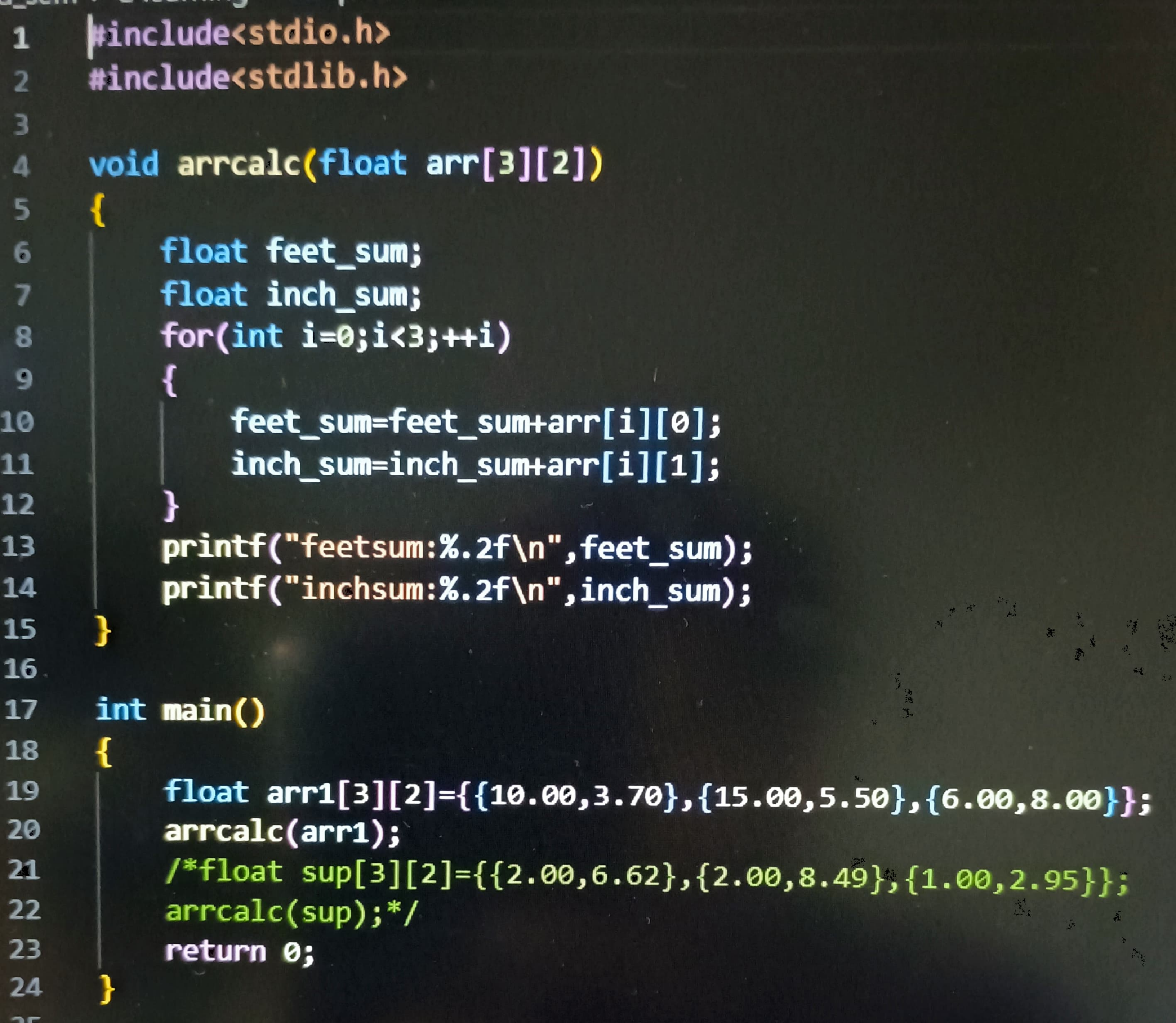
```
[Running] cd "d:\3rd_sem\C learning\" && gcc 11.c
total party expenses:36000.00
[Done] exited with code=0 in 2.204 seconds
```



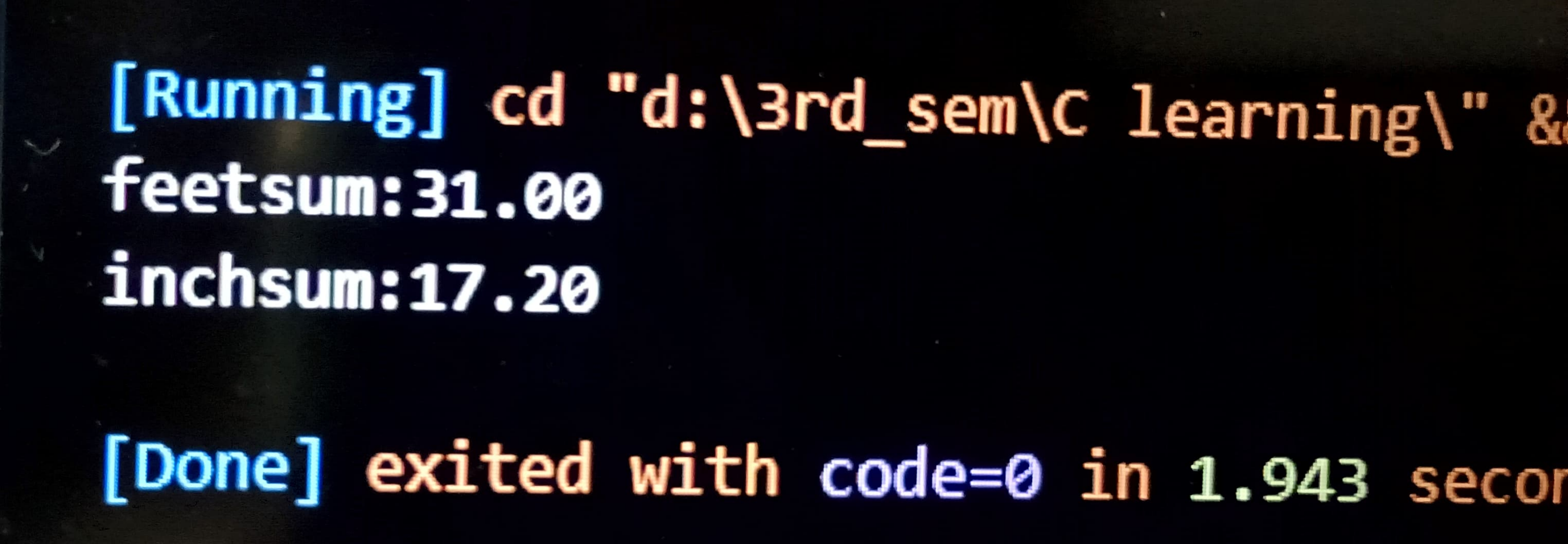
```c
#include <stdio.h>

struct student
{
    char name[20];
    int usn;
    int sem1[4];
    int sem2[4];
};

int main()
{
    struct student s1 = {"aaa", 1001, {2, 2, 3, 1}, {2, 1, 1, 2}};
    int sum = 0;
    for (int i = 0; i < 4; i++)
    {
        sum = sum + s1.sem1[i] + s1.sem2[i];
    }
    printf("name:%s\n", s1.name);
    printf("usn:%d\n", s1.usn);
    printf("total_credit:%d\n", sum);

    if (sum < 16)
    {
        printf("the student is eligible for 3rd sem");
    }
    else
    {
        printf("the student is not eligible for 3rd sem");
    }
}
```



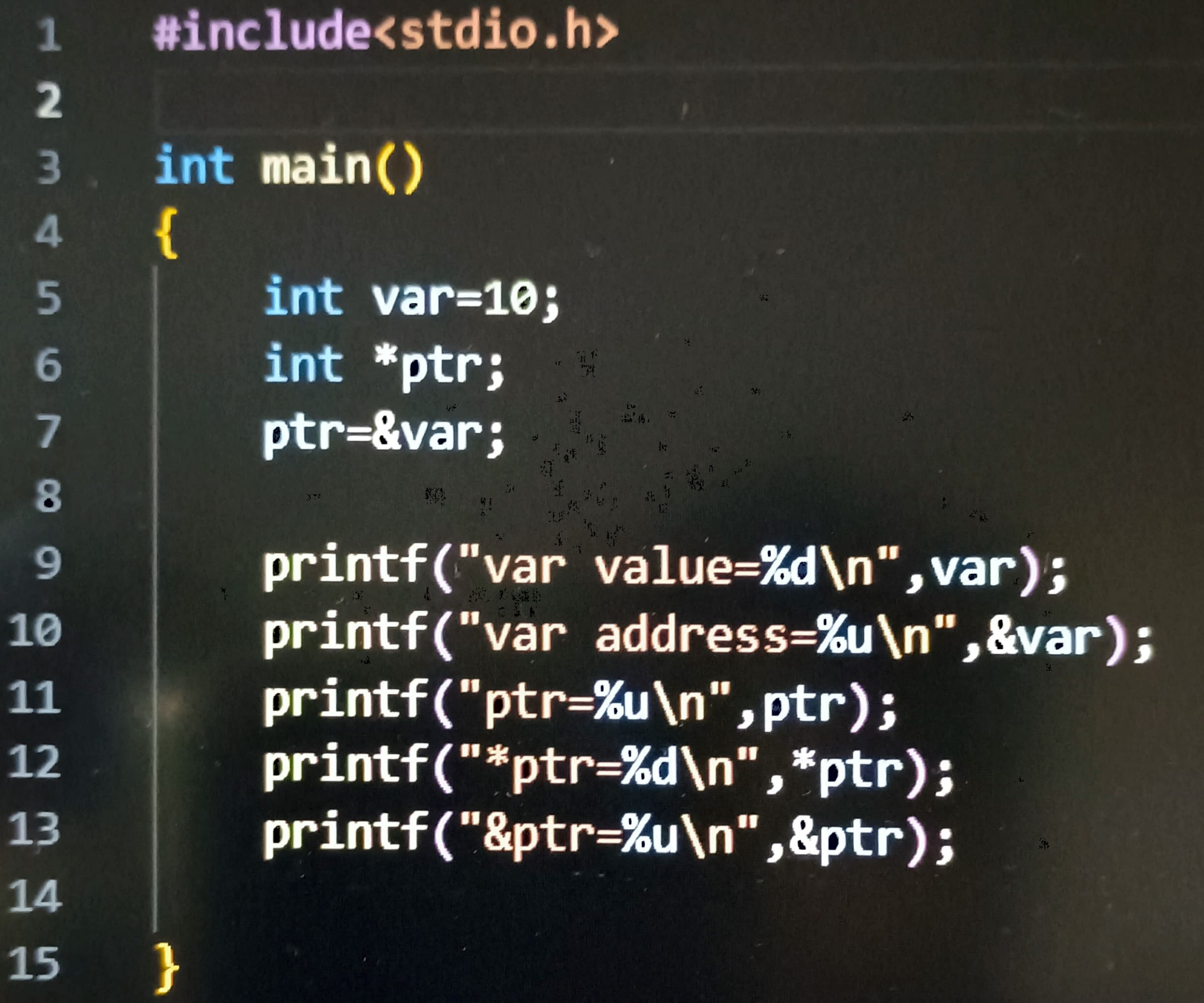
```
[Running] cd "d:\3rd_sem\C learning\" && gcc 12.c
name:aaa
usn:1001
total_credit:14
the student is eligible for 3rd sem
[Done] exited with code=0 in 1.275 seconds
```



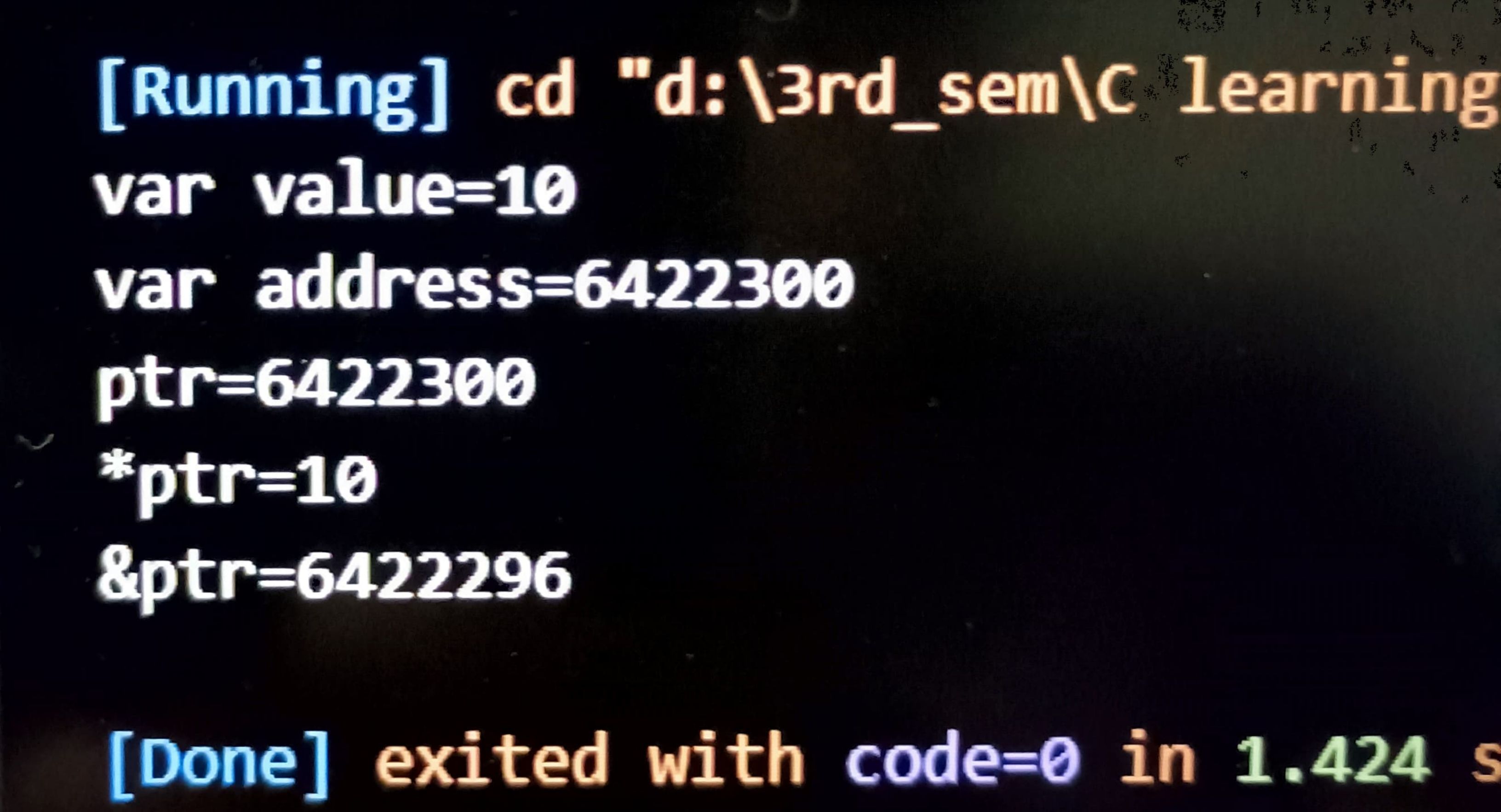
```c
#include<stdio.h>
#include<stdlib.h>

void arrcalc(float arr[3][2])
{
    float feet_sum;
    float inch_sum;
    for(int i=0;i<3;++i)
    {
        feet_sum=feet_sum+arr[i][0];
        inch_sum=inch_sum+arr[i][1];
    }
    printf("feetsum:%.2f\n",feet_sum);
    printf("inchsum:%.2f\n",inch_sum);
}

int main()
{
    float arr1[3][2]={{10.00,3.70},{15.00,5.50},{6.00,8.00}};
    arrcalc(arr1);
    /*float sup[3][2]={{2.00,6.62},{2.00,8.49},{1.00,2.95}};
    arrcalc(sup);*/
    return 0;
}
```



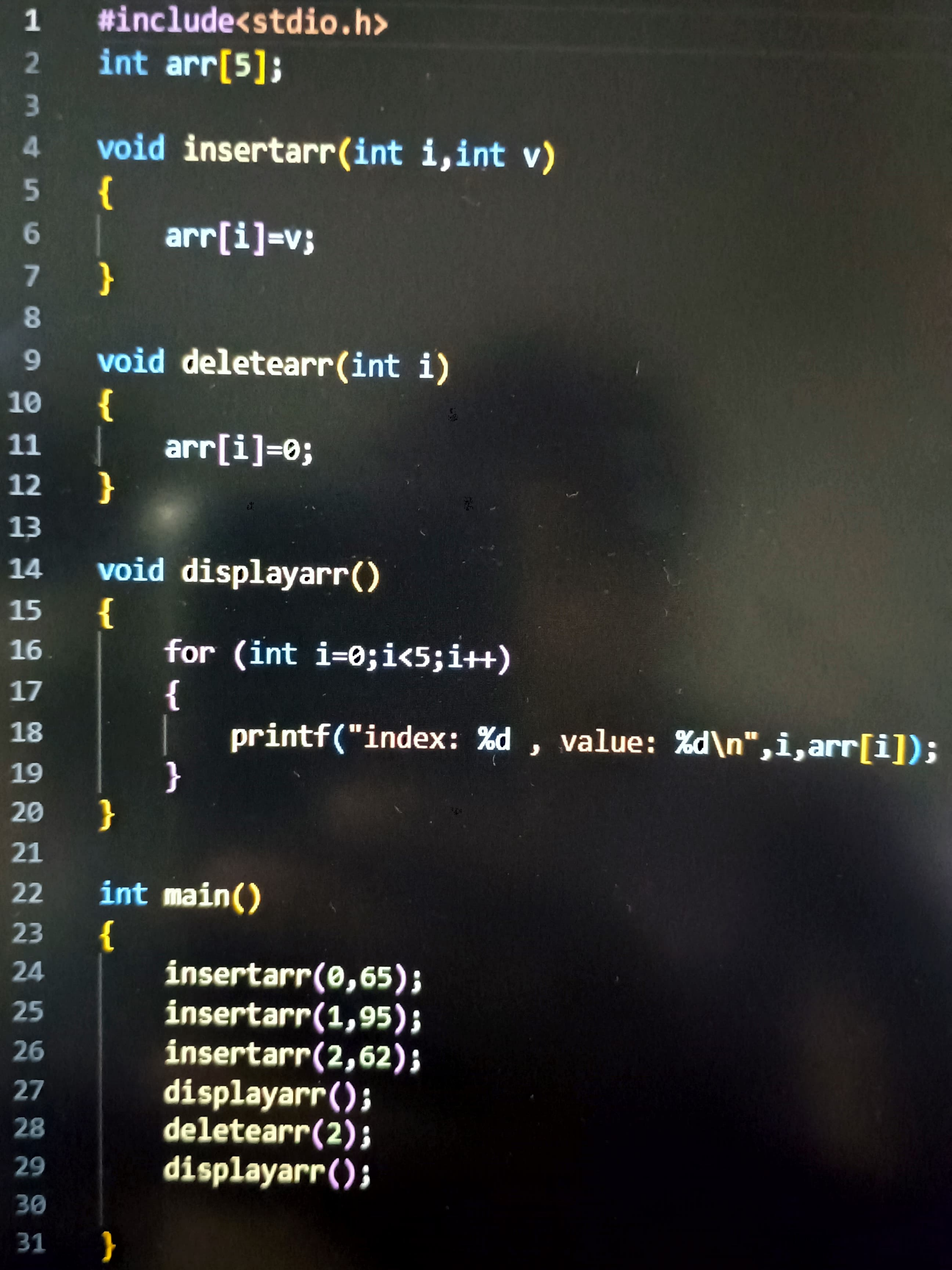
```
[Running] cd "d:\3rd_sem\C learning\" &
feetsum:31.00
inchsum:17.20


[Done] exited with code=0 in 1.943 secor
```



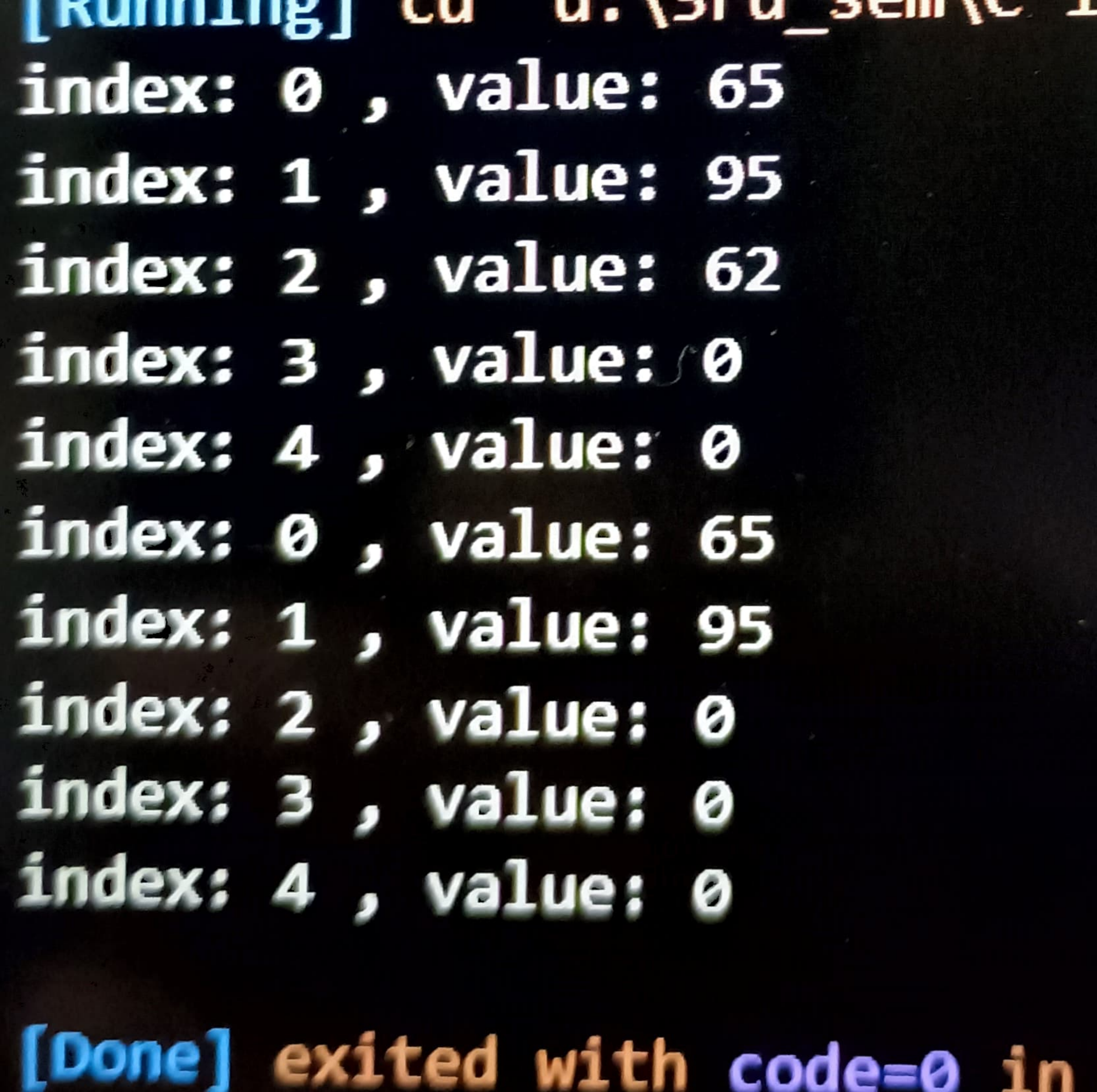
```
#include<stdio.h>

int main()
{
    int var=10;
    int *ptr;
    ptr=&var;

    printf("var value=%d\n",var);
    printf("var address=%u\n",&var);
    printf("ptr=%u\n",ptr);
    printf("*ptr=%d\n",*ptr);
    printf("&ptr=%u\n",&ptr);

}
```



```
[Running] cd "d:\3rd_sem\C learning
var value=10
var address=6422300
ptr=6422300
*ptr=10
&ptr=6422296


[Done] exited with code=0 in 1.424 s
```



```c
#include<stdio.h>
int arr[5];

void insertarr(int i,int v)
{
    arr[i]=v;
}

void deletearr(int i)
{
    arr[i]=0;
}

void displayarr()
{
    for (int i=0;i<5;i++)
    {
        printf("index: %d , value: %d\n",i,arr[i]);
    }
}

int main()
{
    insertarr(0,65);
    insertarr(1,95);
    insertarr(2,62);
    displayarr();
    deletearr(2);
    displayarr();

}
```



```
[Running] cd "d:\3rd_sem\c
index: 0 , value: 65
index: 1 , value: 95
index: 2 , value: 62
index: 3 , value: 0
index: 4 , value: 0
index: 0 , value: 65
index: 1 , value: 95
index: 2 , value: 0
index: 3 , value: 0
index: 4 , value: 0

[Done] exited with code=0 in
```