



Daffodil
International
University

Lab Report

Course Code: CSE-114

Course Title: Problem Solving Lab

Topic: Array

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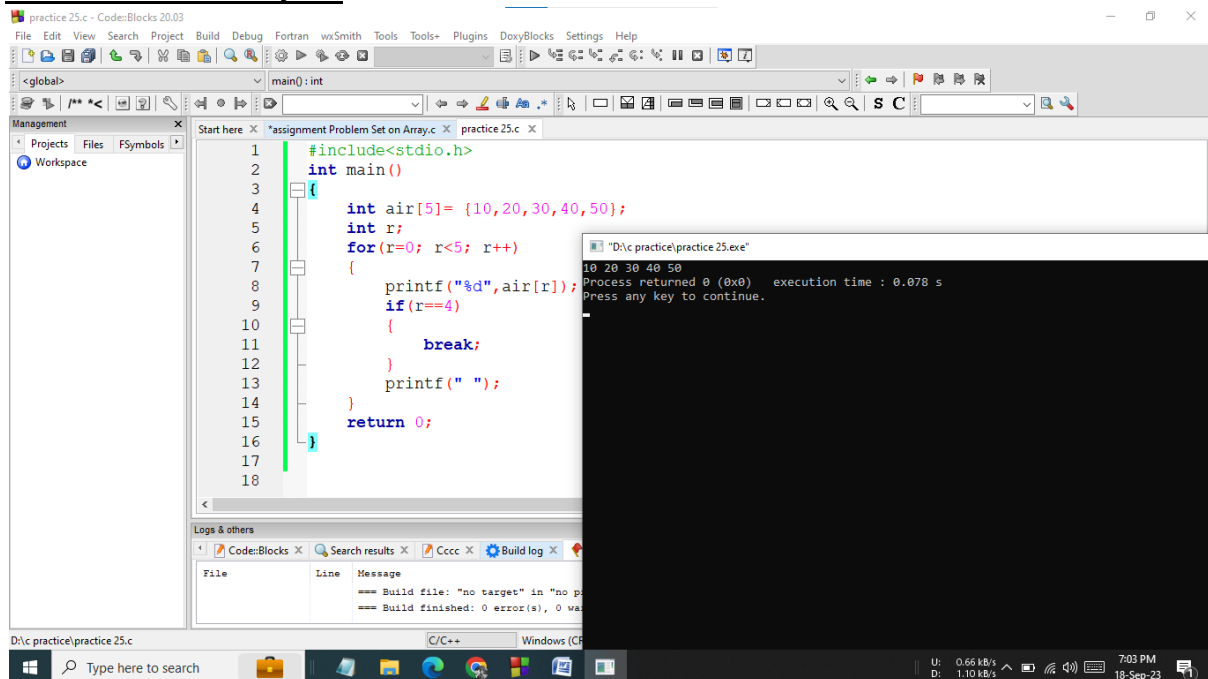
Problem No: 1

Problem Name: Write a c program, declare an array with a size of 5. Store 10, 20, 30, 40 and 50 in it and print them as output.

Source Code:

```
#include<stdio.h>
int main()
{
    int air[5]= {10,20,30,40,50};
    int r;
    for(r=0; r<5; r++)
    {
        printf("%d",air[r]);
        if(r==4)
        {
            break;
        }
        printf(" ");
    }
    return 0;
}
```

Screenshot of output:



Hand Written Code :

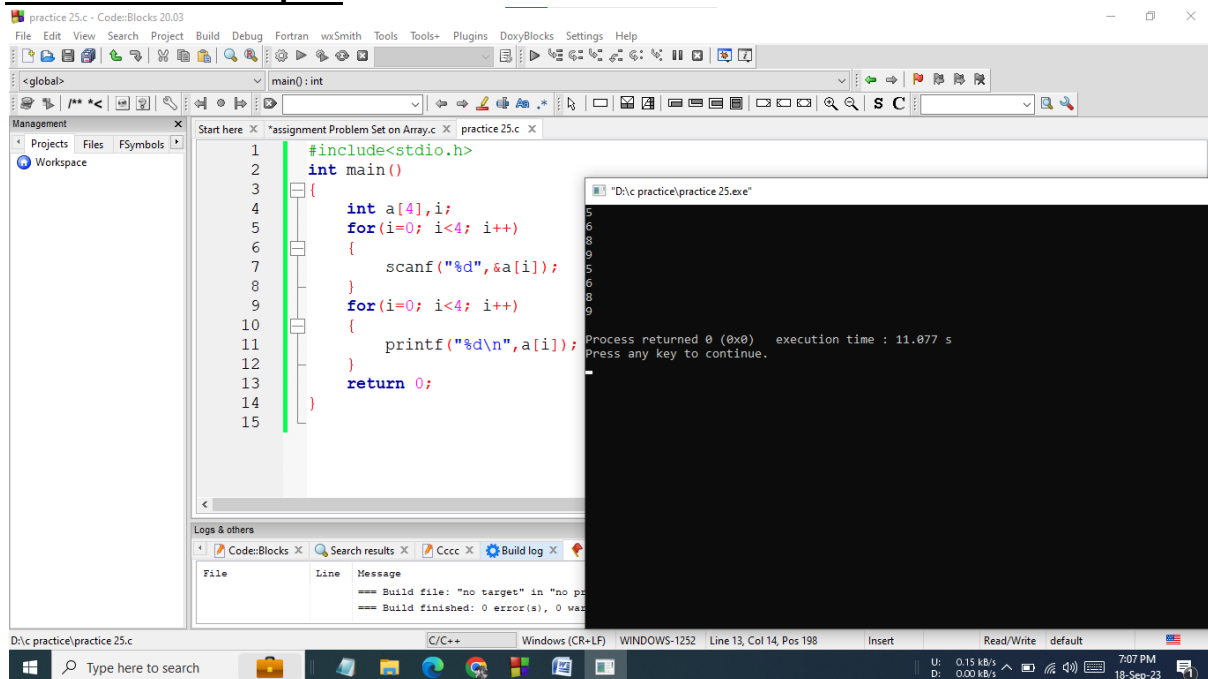
Problem No: 2

Problem Name: Write a C program to take 4 size array and array elements from the user ,and print them.

Source Code:

```
#include<stdio.h>
int main()
{
    int a[4],i;
    for(i=0; i<4; i++)
    {
        scanf("%d",&a[i]);
    }
    for(i=0; i<4; i++)
    {
        printf("%d\n",a[i]);
    }
    return 0;
}
```

Screenshot of output:



Hand Written Code :

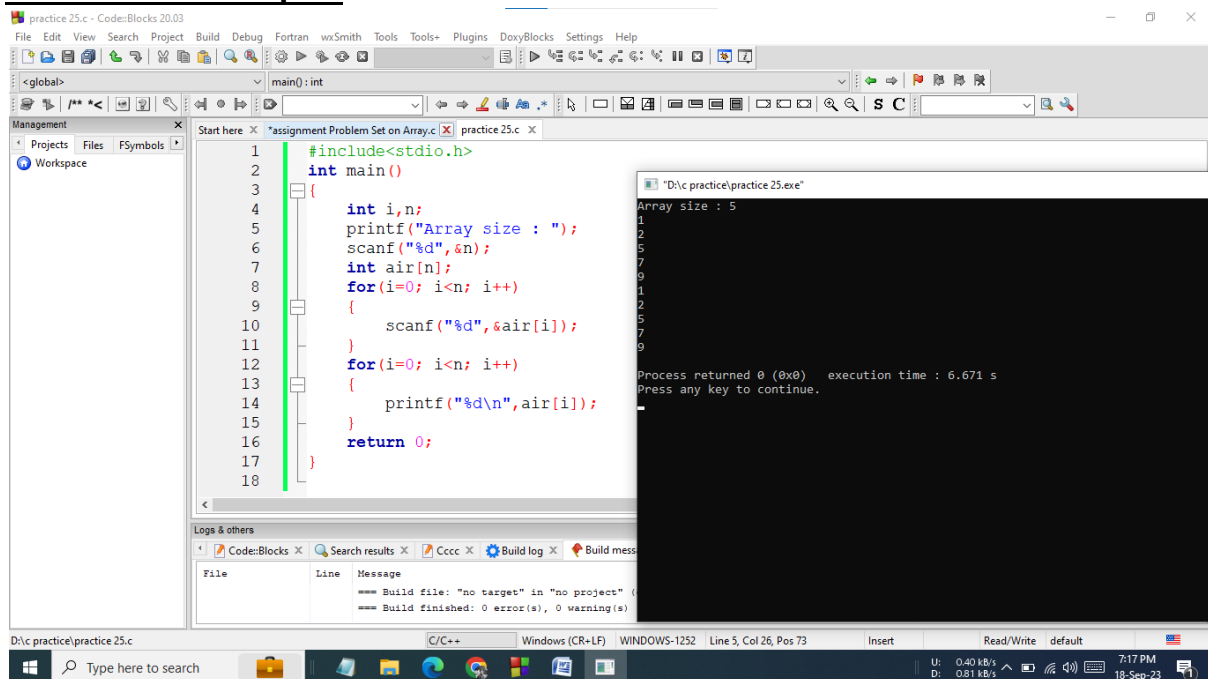
Problem No: 3

Problem Name: Take a n size array and take the array element from the user and print them.

Source Code:

```
#include<stdio.h>
int main()
{
    int i,n;
    printf("Array size : ");
    scanf("%d",&n);
    int air[n];
    for(i=0; i<n; i++)
    {
        scanf("%d",&air[i]);
    }
    for(i=0; i<n; i++)
    {
        printf("%d\n",air[i]);
    }
    return 0;
}
```

Screenshot of output:



Hand Written Code :

Problem No: 4

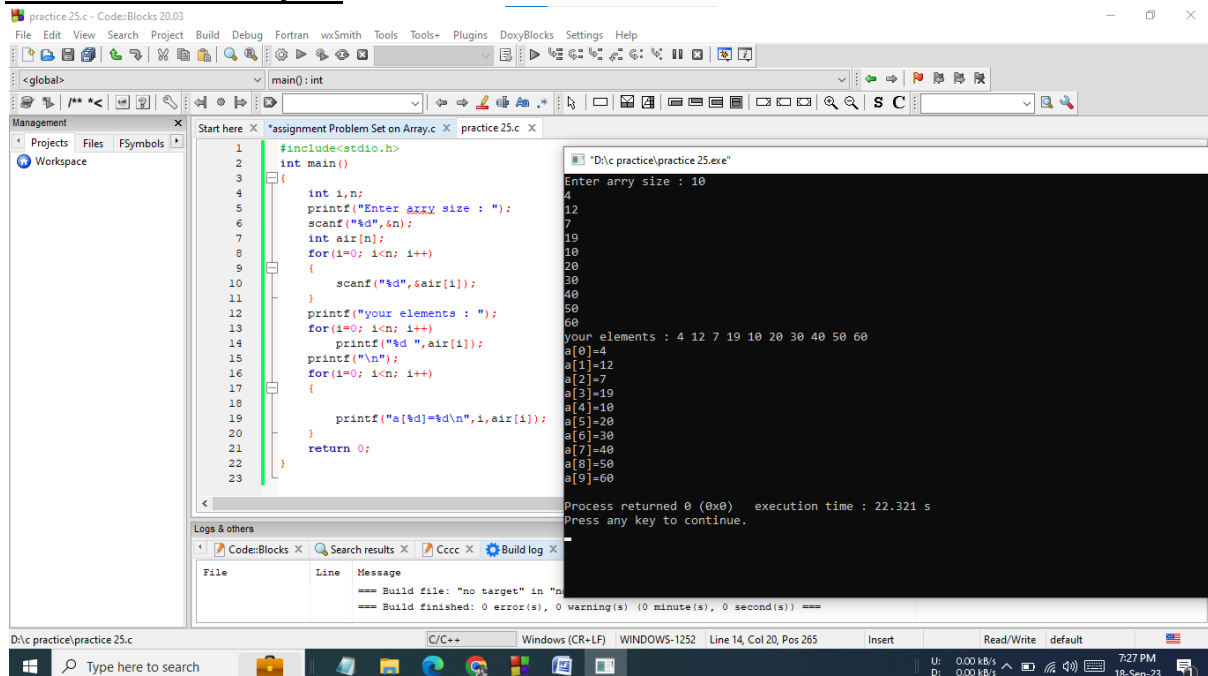
Problem Name: Take a n size array and take the array element from the user and print them.

Source Code:

```
#include<stdio.h>

int main()
{
    int i,n;
    printf("Enter array size : ");
    scanf("%d",&n);
    int air[n];
    for(i=0; i<n; i++)
    {
        scanf("%d",&air[i]);
    }
    printf("your elements : ");
    for(i=0; i<n; i++)
        printf("%d ",air[i]);
    printf("\n");
    for(i=0; i<n; i++)
    {
        printf("a[%d]=%d\n",i,air[i]);
    }
    return 0;
}
```

Screenshot of output:



Hand Written Code :

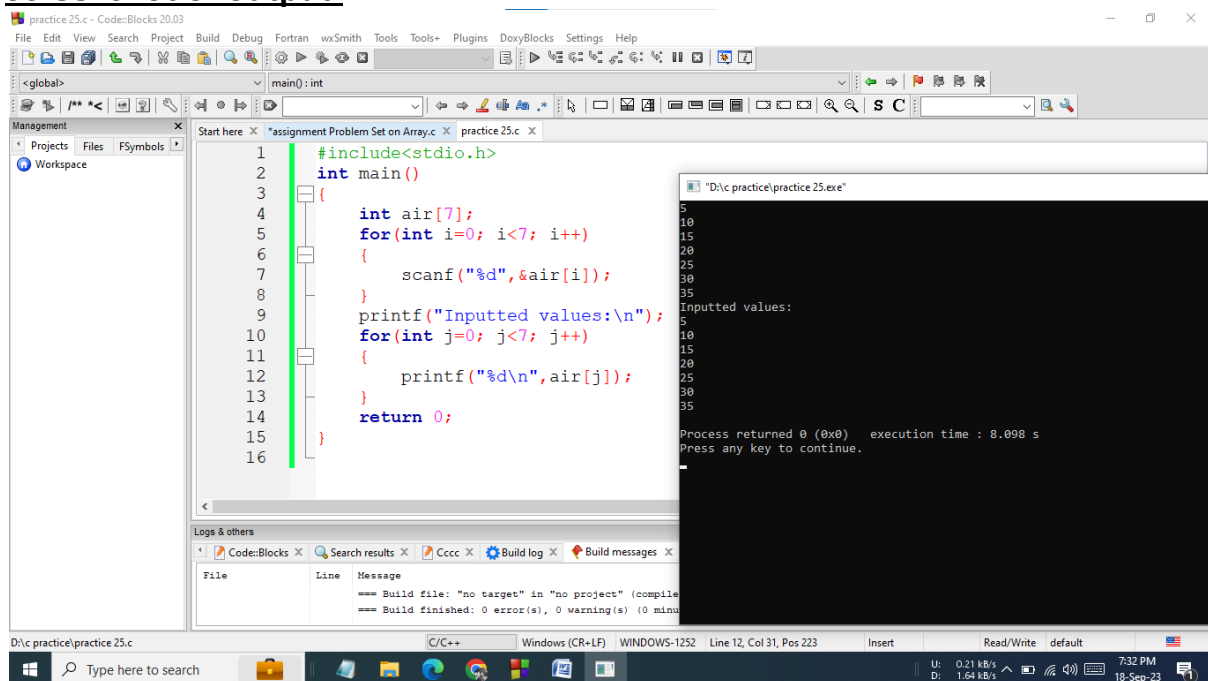
Problem No: 5

Problem Name: Write a C program to take 7 values from the user in an array. Use a loop to input those values from the user. As output, print those values.

Source Code:

```
#include<stdio.h>
int main()
{
    int air[7];
    for(int i=0; i<7; i++)
    {
        scanf("%d",&air[i]);
    }
    printf("Inputted values:\n");
    for(int j=0; j<7; j++)
    {
        printf("%d\n",air[j]);
    }
    return 0;
}
```

Screenshot of output:



Hand Written Code :

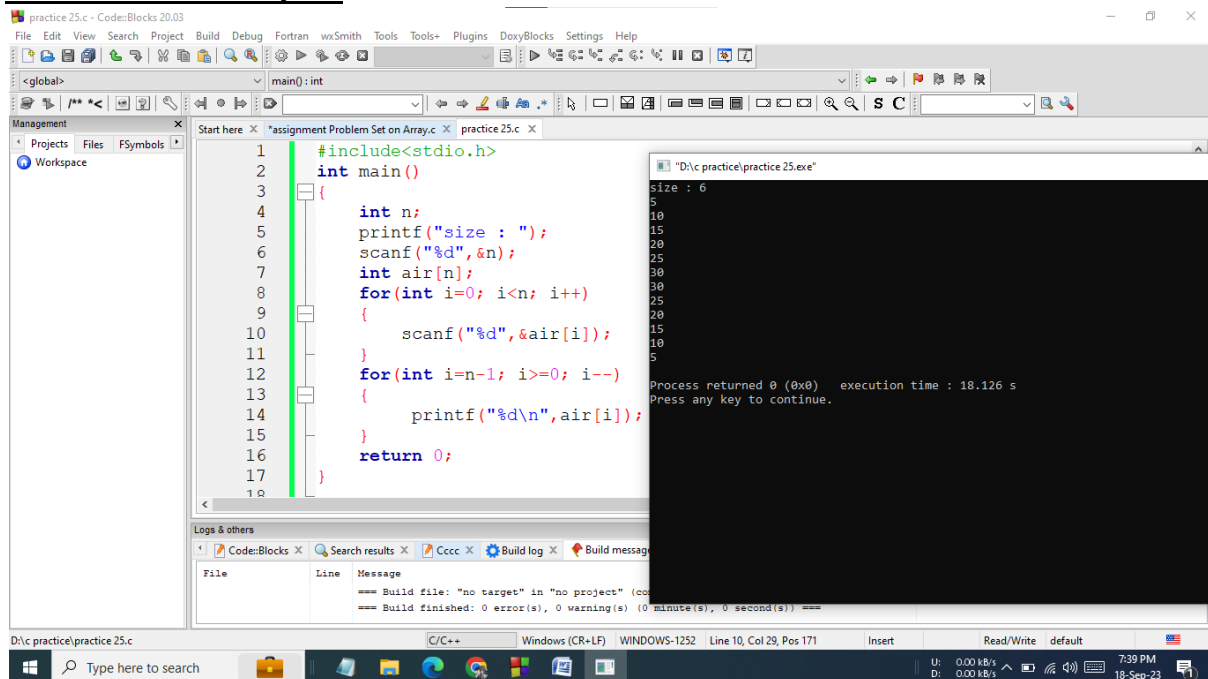
Problem No: 6

Problem Name: Take a N size array from the user and array input take from the user and print it in the reverse way.

Source Code:

```
#include<stdio.h>
int main()
{
    int n;
    printf("size : ");
    scanf("%d",&n);
    int air[n];
    for(int i=0; i<n; i++)
    {
        scanf("%d",&air[i]);
    }
    for(int i=n-1; i>=0; i--)
    {
        printf("%d\n",air[i]);
    }
    return 0;
}
```

Screenshot of output:



Hand Written Code :

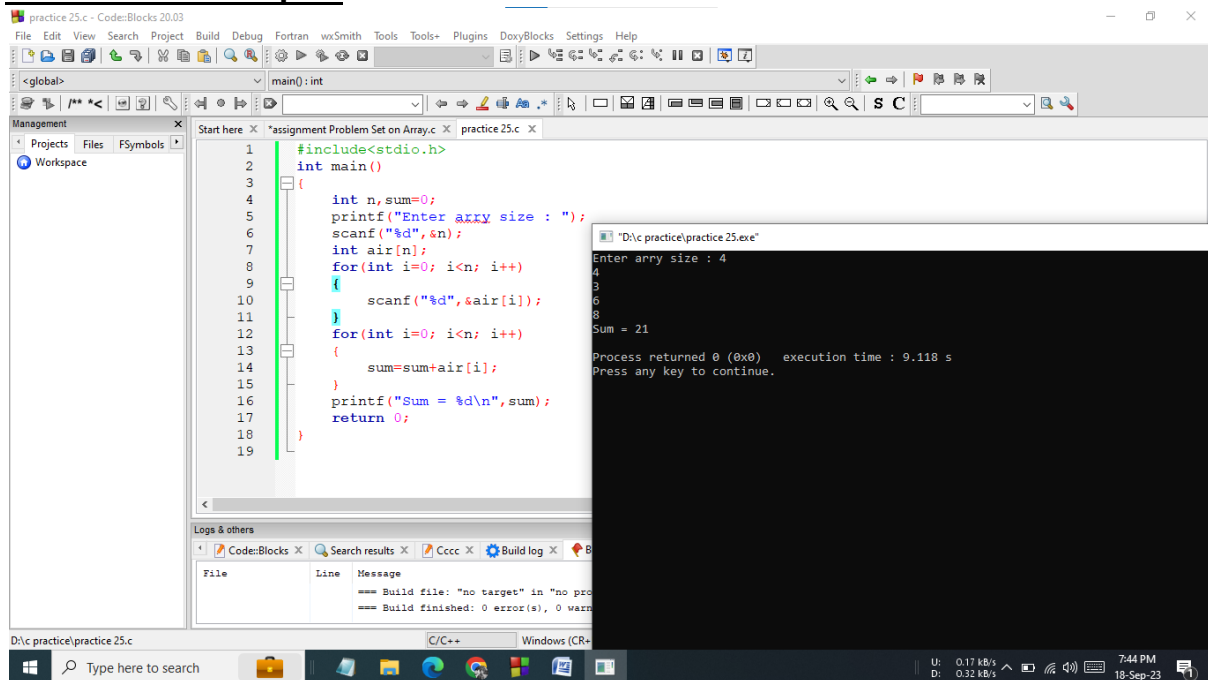
Problem No: 7

Problem Name: Write a c program to take N user input in an array and print the sum of those N values.

Source Code:

```
#include<stdio.h>
int main()
{
    int n,sum=0;
    printf("Enter array size : ");
    scanf("%d",&n);
    int air[n];
    for(int i=0; i<n; i++)
    {
        scanf("%d",&air[i]);
    }
    for(int i=0; i<n; i++)
    {
        sum=sum+air[i];
    }
    printf("Sum = %d\n",sum);
    return 0;
}
```

Screenshot of output:



Hand Written Code :

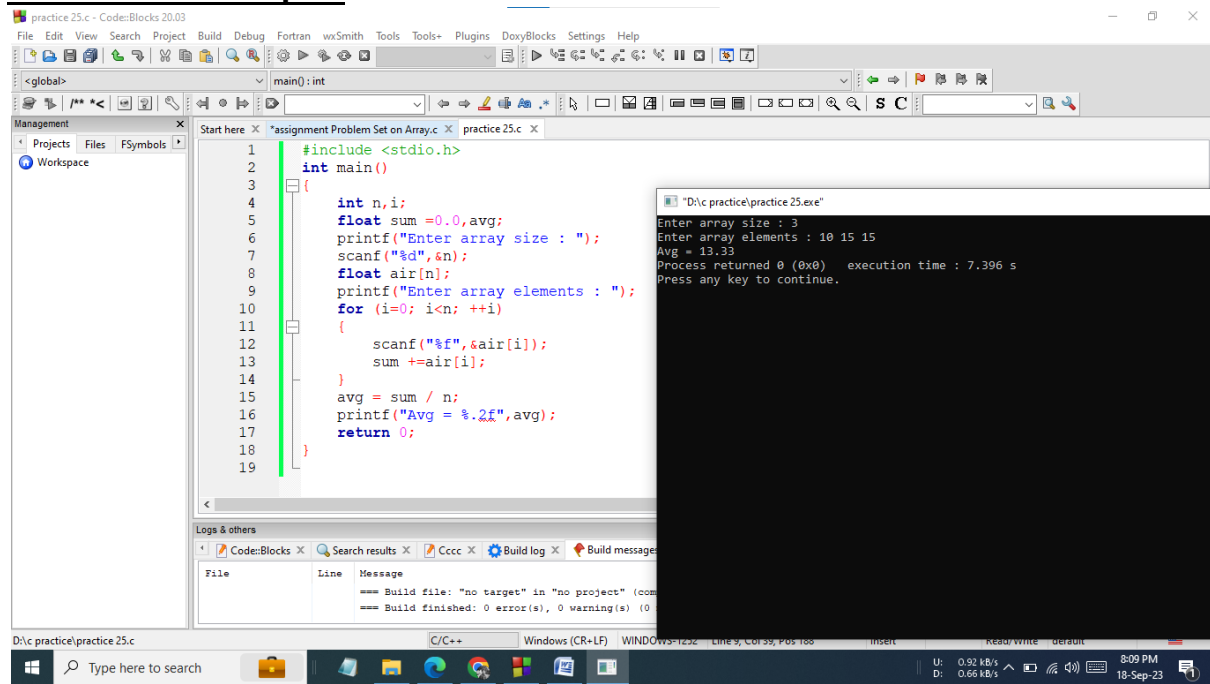
Problem No: 8

Problem Name: Write a C program that would calculate the average of all the elements in an array array size and array input taken from the user .

Source Code:

```
#include <stdio.h>
int main()
{
    int n,i;
    float sum =0.0,avg;
    printf("Enter array size : ");
    scanf("%d",&n);
    float air[n];
    printf("Enter array elements : ");
    for (i=0; i<n; ++i)
    {
        scanf("%f",&air[i]);
        sum +=air[i];
    }
    avg = sum / n;
    printf("Avg = %.2f",avg);
    return 0;
}
```

Screenshot of output:



The screenshot displays the Code::Blocks IDE interface. The main editor window shows the C program code for calculating the average of an array. The code is as follows:

```
1 #include <stdio.h>
2 int main()
3 {
4     int n,i;
5     float sum =0.0,avg;
6     printf("Enter array size : ");
7     scanf("%d",&n);
8     float air[n];
9     printf("Enter array elements : ");
10    for (i=0; i<n; ++i)
11    {
12        scanf("%f",&air[i]);
13        sum +=air[i];
14    }
15    avg = sum / n;
16    printf("Avg = %.2f",avg);
17    return 0;
18 }
19
```

The output window, titled "D:\c practice\practice 25.exe", shows the program's execution results:

```
Enter array size : 3
Enter array elements : 10 15 15
Avg = 13.33
Process returned 0 (0x0)   execution time : 7.396 s
Press any key to continue.
```

The taskbar at the bottom shows the system clock as 8:09 PM on 18-Sep-23.

Hand Written Code

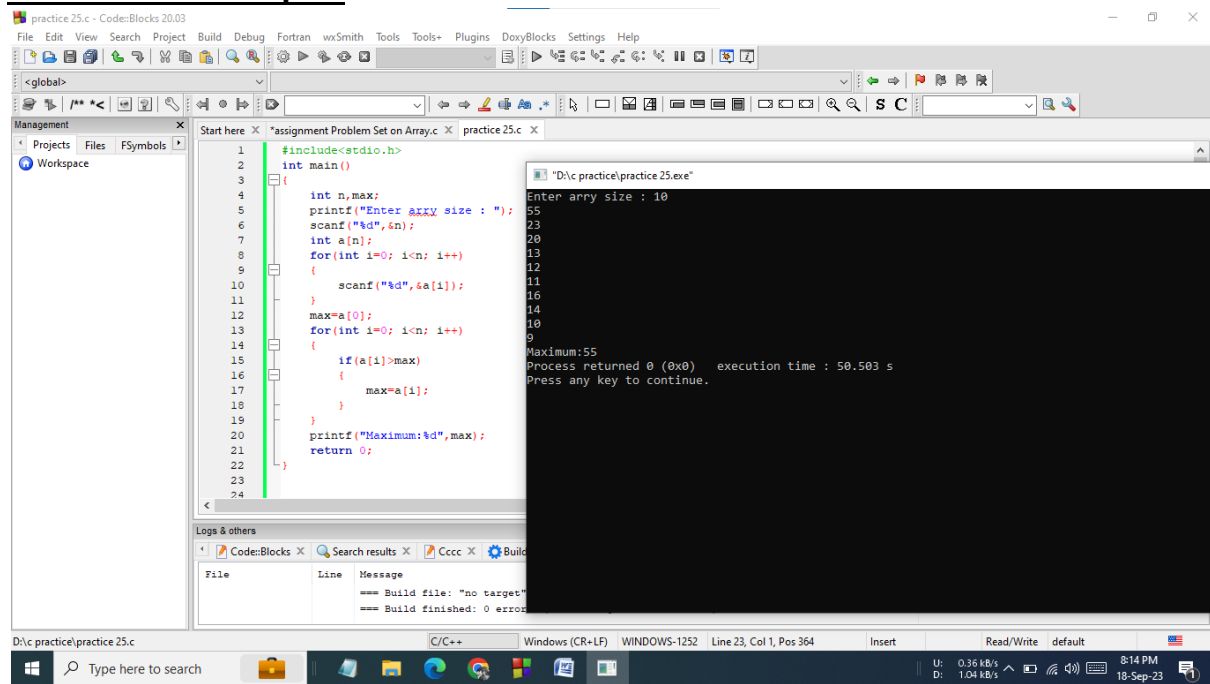
Problem No: 9

Problem Name: Write a C program to find the maximum value in an array

Source Code:

```
#include<stdio.h>
int main()
{
    int n,max;
    printf("Enter array size : ");
    scanf("%d",&n);
    int a[n];
    for(int i=0; i<n; i++)
    {
        scanf("%d",&a[i]);
    }
    max=a[0];
    for(int i=0; i<n; i++)
    {
        if(a[i]>max)
        {
            max=a[i];
        }
    }
    printf("Maximum:%d",max);
    return 0;
}
```

Screenshot of output:



Hand Written Code:

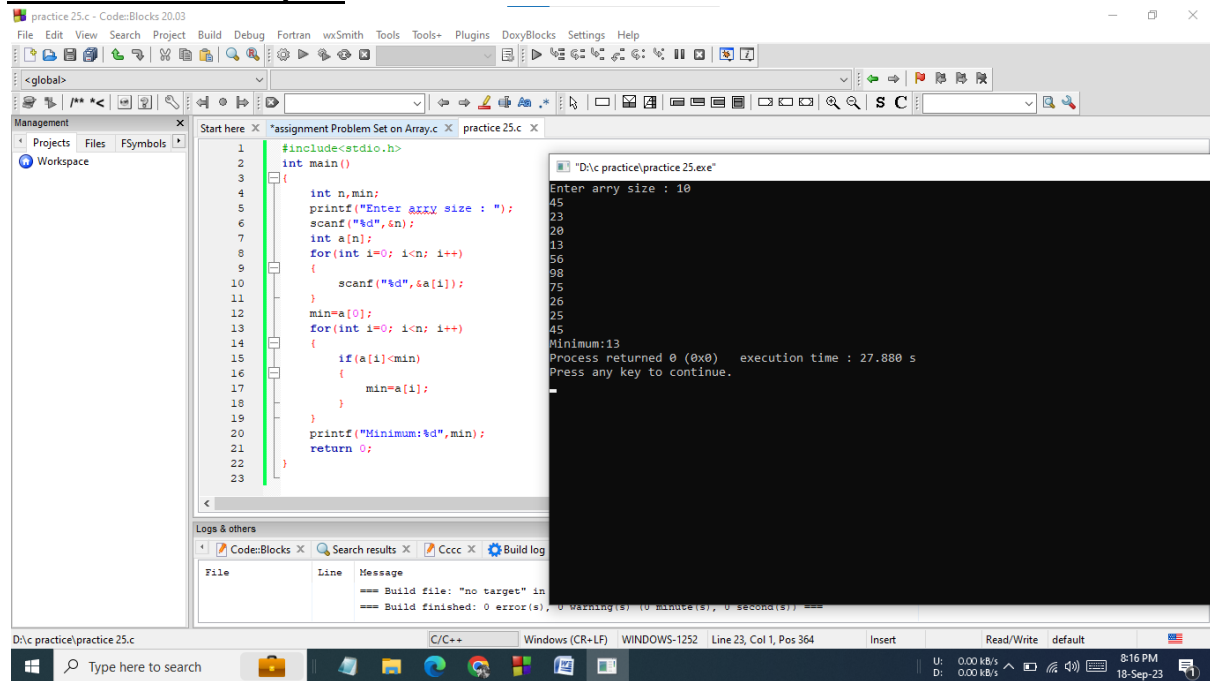
Problem No: 10

Problem Name: Write a C program to find the minimum value in an array.

Source Code:

```
#include<stdio.h>
int main()
{
    int n,min;
    printf("Enter array size : ");
    scanf("%d",&n);
    int a[n];
    for(int i=0; i<n; i++)
    {
        scanf("%d",&a[i]);
    }
    min=a[0];
    for(int i=0; i<n; i++)
    {
        if(a[i]<min)
        {
            min=a[i];
        }
    }
    printf("Minimum:%d",min);
    return 0;
}
```

Screenshot of output:



Hand Written Code:

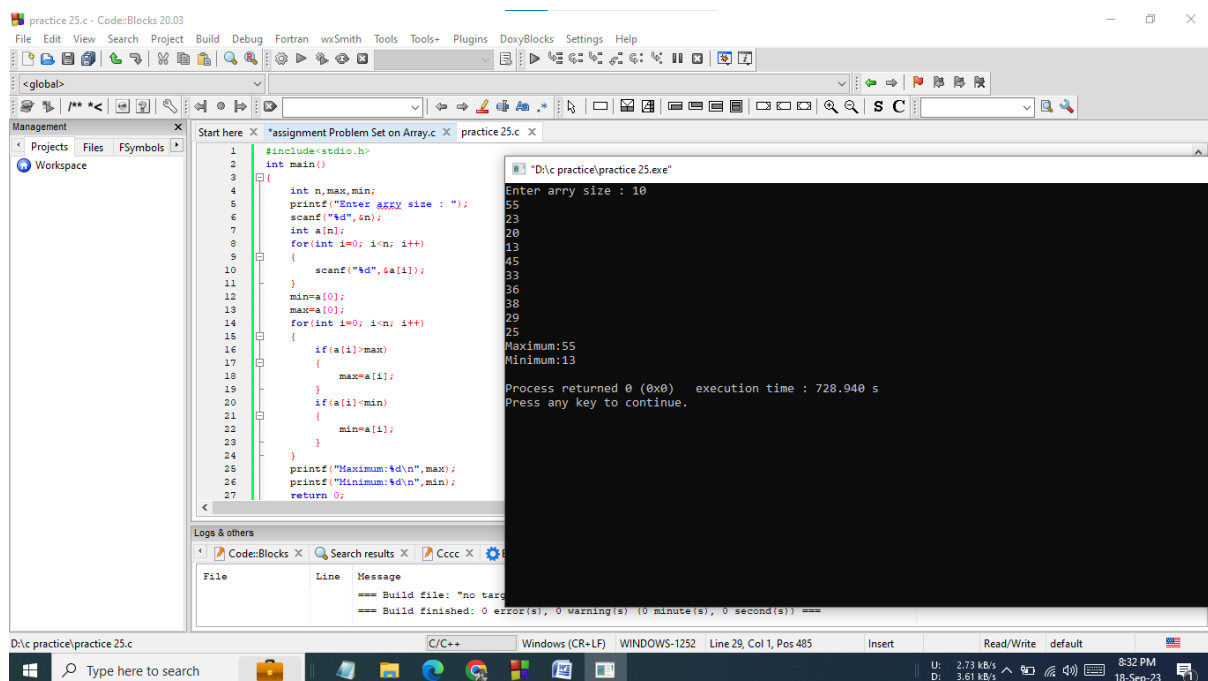
Problem No: 11

Problem Name: Write a program in C to find the maximum and minimum element in an array.

Source Code:

```
#include<stdio.h>
int main()
{
    int n,max,min;
    printf("Enter array size : ");
    scanf("%d",&n);
    int a[n];
    for(int i=0; i<n; i++)
    {
        scanf("%d",&a[i]);
    }
    min=a[0];
    max=a[0];
    for(int i=0; i<n; i++)
    {
        if(a[i]>max)
            max=a[i];
        if(a[i]<min)
            min=a[i];
    }
    printf("Maximum:%d\n",max);
    printf("Minimum:%d\n",min);
    return 0;
}
```

Screenshot of output:



The screenshot shows the Code::Blocks IDE with a C program open in the editor. The program is named 'practice 25.c' and is located at 'D:\c practice\practice 25.c'. The code is as follows:

```
1 #include<stdio.h>
2 int main()
3 {
4     int n,max,min;
5     printf("Enter array size : ");
6     scanf("%d",&n);
7     int a[n];
8     for(int i=0; i<n; i++)
9     {
10         scanf("%d",&a[i]);
11     }
12     min=a[0];
13     max=a[0];
14     for(int i=0; i<n; i++)
15     {
16         if(a[i]>max)
17         {
18             max=a[i];
19         }
20         if(a[i]<min)
21         {
22             min=a[i];
23         }
24     }
25     printf("Maximum:%d\n",max);
26     printf("Minimum:%d\n",min);
27     return 0;
28 }
```

The output window shows the execution of the program. It prompts the user to enter the array size, which is 10. Then it displays the maximum and minimum values of the array: Maximum: 55 and Minimum: 13. The process returned 0 (0x0) and the execution time was 728.040 s.

Hand Written Code:

Problem No: 12

Problem Name: Take a N size array and all array input from the user and also take an integer x and find whether the x exists in the array or not. If the x exists in array print YES otherwise print NO.

Source Code:

```
#include<stdio.h>
int main()
{
    int n,i;
    printf("Enter array size : ");
    scanf("%d",&n);
    int a[n],found,search;
    printf("Enter array elements : ");
    for(i=0; i<n; i++)
    {
        scanf("%d",&a[i]);
    }
    printf("Finding value : ");
    scanf("%d",&search);
    found=0;
    for(i=0; i<n; i++)
    {
        if(a[i]==search)
        {
            found=1;
            break;
        }
    }
    if(found==1)
    {
        printf("YES");
    }
    else
    {
        printf("NO");
    }
    return 0;
}
```

Screenshot of output:

The screenshot displays the Code::Blocks IDE interface. The main editor window shows a C program named 'practice 25.c' with the following code:

```
1 #include<stdio.h>
2 int main()
3 {
4     int n,i;
5     printf("Enter array size : ");
6     scanf("%d",&n);
7     int a[n],found,search;
8     printf("Enter array elements : ");
9     for(i=0; i<n; i++)
10     {
11         scanf("%d",&a[i]);
12     }
13     printf("Finding value : ");
14     scanf("%d",&search);
15     found=0;
16     for(i=0; i<n; i++)
17     {
18         if(a[i]==search)
19         {
20             found=1;
21             break;
22         }
23     }
24     if(found==1)
```

An output window titled 'D:\c practice\practice 25.exe' shows the program's execution:

```
Enter array size : 4
Enter array elements : 4 3 6 8
Finding value : 6
YES
Process returned 0 (0x0)   execution time : 8.681 s
Press any key to continue.
```

The 'Logs & others' panel at the bottom shows build messages:

File	Line	Message
		== Build file: "no target"
		== Build finished: 0 errors

Hand Written Code:

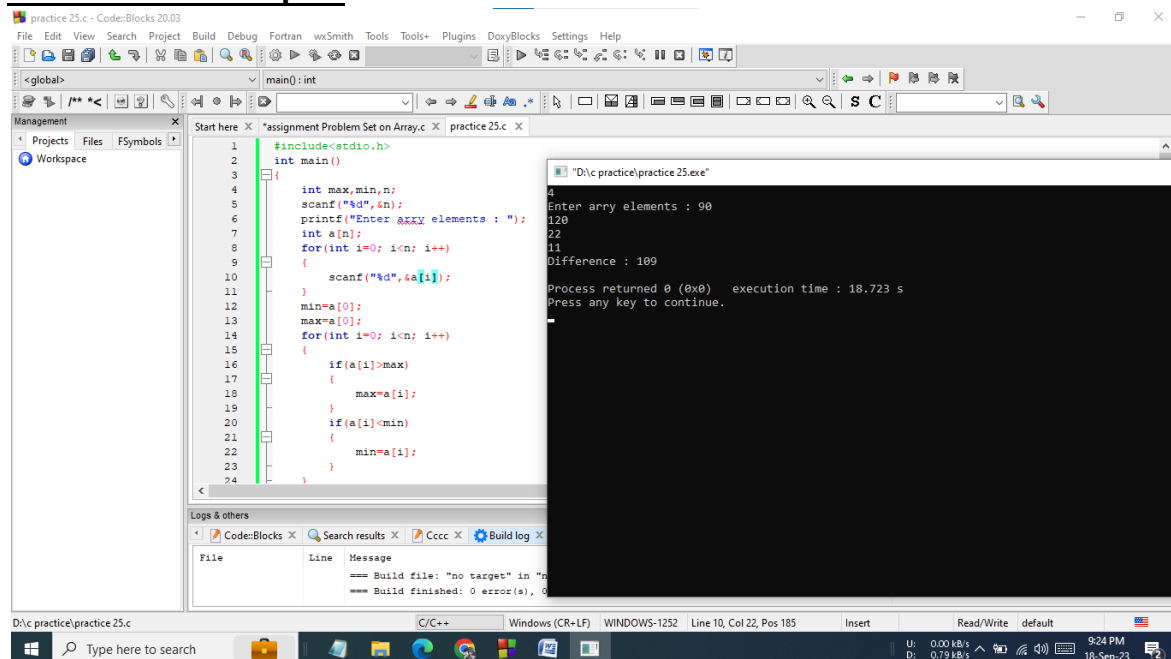
Problem No: 13

Problem Name: Write a C program that would find the difference between the minimum and the maximum number in an array size and element taken from the user.

Source Code:

```
#include<stdio.h>
int main()
{
    int max,min,n;
    scanf("%d",&n);
    printf("Enter array elements : ");
    int a[n];
    for(int i=0; i<n; i++)
    {
        scanf("%d",&a[i]);
    }
    min=a[0];
    max=a[0];
    for(int i=0; i<n; i++)
    {
        if(a[i]>max)
            max=a[i];
        if(a[i]<min)
            min=a[i];
    }
    int dif;
    dif=max-min;
    printf("Difference : %d\n",dif);
    return 0;
}
```

Screenshot of output:



The screenshot shows the Code::Blocks IDE with a C program open. The program prompts the user to enter the number of elements (n) and then the elements themselves. The user has entered 10 for n and the elements 120, 22, 11, and 109. The program calculates the difference between the maximum (120) and minimum (11) elements, resulting in 109. The output window shows the execution details, including the process return code (0) and execution time (18.723 s).

```
practice 25.c - Code::Blocks 20.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoryBlocks Settings Help
<global>
main(): int
1 #include<stdio.h>
2 int main()
3 {
4     int max,min,n;
5     scanf("%d",&n);
6     printf("Enter array elements : ");
7     int a[n];
8     for(int i=0; i<n; i++)
9     {
10         scanf("%d",&a[i]);
11     }
12     min=a[0];
13     max=a[0];
14     for(int i=0; i<n; i++)
15     {
16         if(a[i]>max)
17             max=a[i];
18         if(a[i]<min)
19             min=a[i];
20     }
21     int dif;
22     dif=max-min;
23     printf("Difference : %d\n",dif);
24     return 0;
25 }
```

Output window: "D:\c practice\practice 25.exe"

```
4
Enter array elements : 10
120
22
11
109
Difference : 109
Process returned 0 (0x0)   execution time : 18.723 s
Press any key to continue.
```

Logs & others

File	Line	Message
Code::Blocks		Build file: "no target" in "D:\c practice\practice 25.c"
Cccc		Build finished: 0 error(s), 0 warning(s)

Hand Written Code:

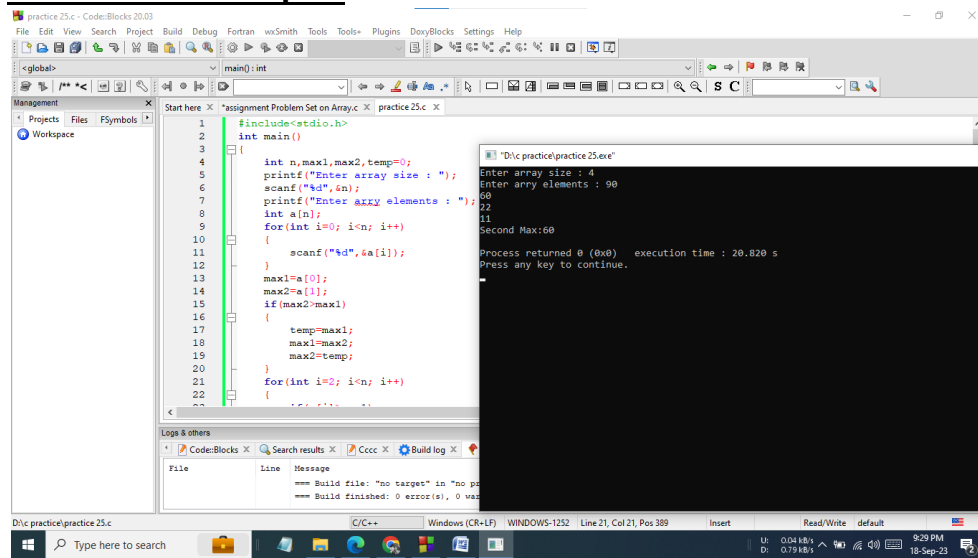
Problem No: 14

Problem Name: Write a program in C to find the second largest element in an array

Source Code:

```
#include<stdio.h>
int main()
{
    int n,max1,max2,temp=0;
    printf("Enter array size : ");
    scanf("%d",&n);
    printf("Enter array elements : ");
    int a[n];
    for(int i=0; i<n; i++)
    {
        scanf("%d",&a[i]);
    }
    max1=a[0];
    max2=a[1];
    if(max2>max1)
    {
        temp=max1;
        max1=max2;
        max2=temp;
    }
    for(int i=2; i<n; i++)
    {
        if(a[i]>max1){
            max2=max1;
            max1=a[i];
        }
        else if(a[i]>=max2)
            max2=a[i];
    }
    printf("Second Max:%d\n",max2);
    return 0;
}
```

Screenshot of output:



Hand Written Code:

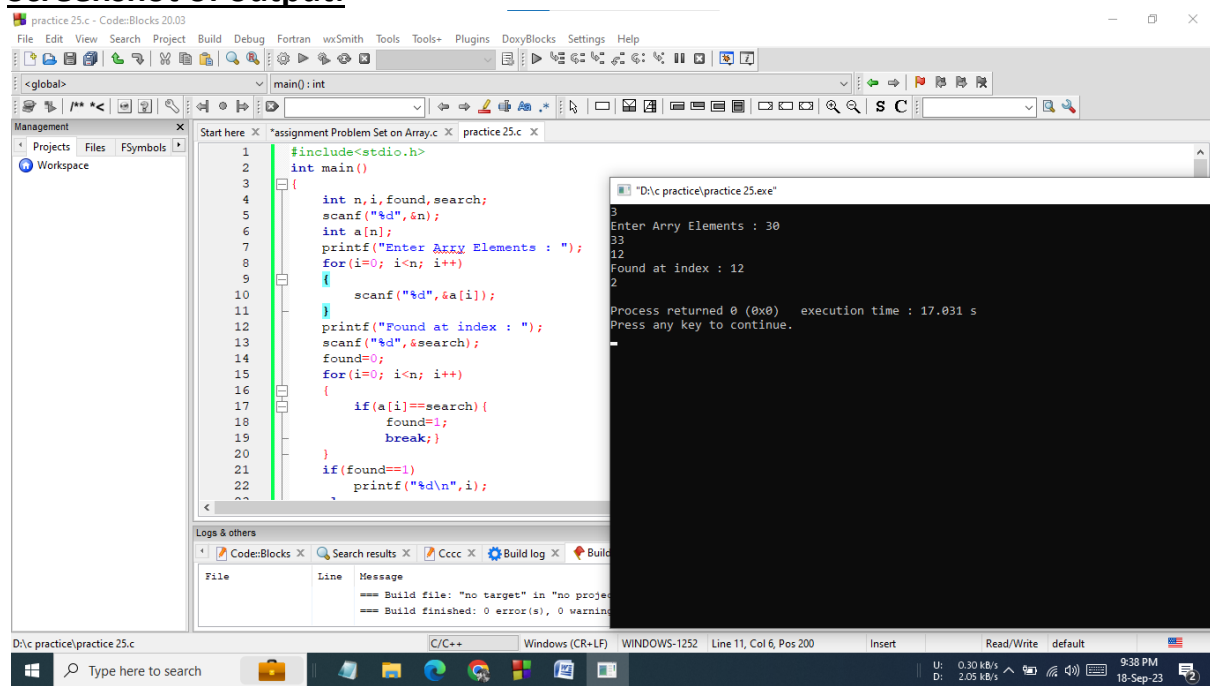
Problem No: 15

Problem Name: Write a C program that would search for a particular number in an array.

Source Code:

```
#include<stdio.h>
int main()
{
    int n,i,found,search;
    scanf("%d",&n);
    int a[n];
    printf("Enter Array Elements : ");
    for(i=0; i<n; i++)
    {
        scanf("%d",&a[i]);
    }
    printf("Found at index : ");
    scanf("%d",&search);
    found=0;
    for(i=0; i<n; i++)
    {
        if(a[i]==search){
            found=1;
            break;}
    }
    if(found==1)
        printf("%d\n",i);
    else
        printf("Not found\n");
    return 0;
}
```

Screenshot of output:



The screenshot shows the Code::Blocks IDE with a C program open. The program prompts the user to enter the number of elements in the array (30) and then the elements themselves. It then prompts for the number to search for (12) and outputs the index where it was found (12). The console window shows the execution output, and the status bar at the bottom indicates the program finished successfully with 0 errors and 0 warnings.

```
practice 25.c - Code::Blocks 20.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
<global>
main():int
1 #include<stdio.h>
2 int main()
3 {
4     int n,i,found,search;
5     scanf("%d",&n);
6     int a[n];
7     printf("Enter Array Elements : ");
8     for(i=0; i<n; i++)
9     {
10         scanf("%d",&a[i]);
11     }
12     printf("Found at index : ");
13     scanf("%d",&search);
14     found=0;
15     for(i=0; i<n; i++)
16     {
17         if(a[i]==search){
18             found=1;
19             break;}
20     }
21     if(found==1)
22         printf("%d\n",i);
23     else
24         printf("Not found\n");
25     return 0;
26 }
```

Process returned 0 (0x0) execution time : 17.031 s
Press any key to continue.

Hand Written Code:

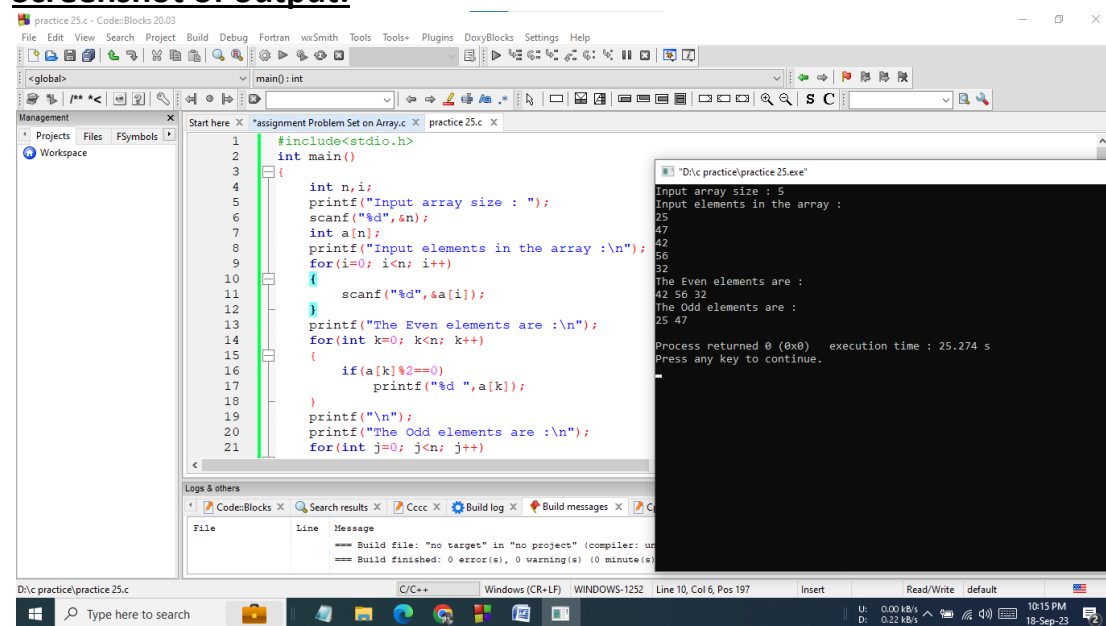
Problem No: 16

Problem Name: Write a program in C to separate odd and even integers in separate arrays.

Source Code:

```
#include<stdio.h>
int main()
{
    int n,i;
    printf("Input array size : ");
    scanf("%d",&n);
    int a[n];
    printf("Input elements in the array :\n");
    for(i=0; i<n; i++)
    {
        scanf("%d",&a[i]);
    }
    printf("The Even elements are :\n");
    for(int k=0; k<n; k++)
    {
        if(a[k]%2==0)
            printf("%d ",a[k]);
    }
    printf("\n");
    printf("The Odd elements are :\n");
    for(int j=0; j<n; j++)
    {
        if(a[j]%2==1)
            printf("%d ",a[j]);
    }
    printf("\n");
    return 0;
}
```

Screenshot of output:



Hand Written Code:

Problem No: 17

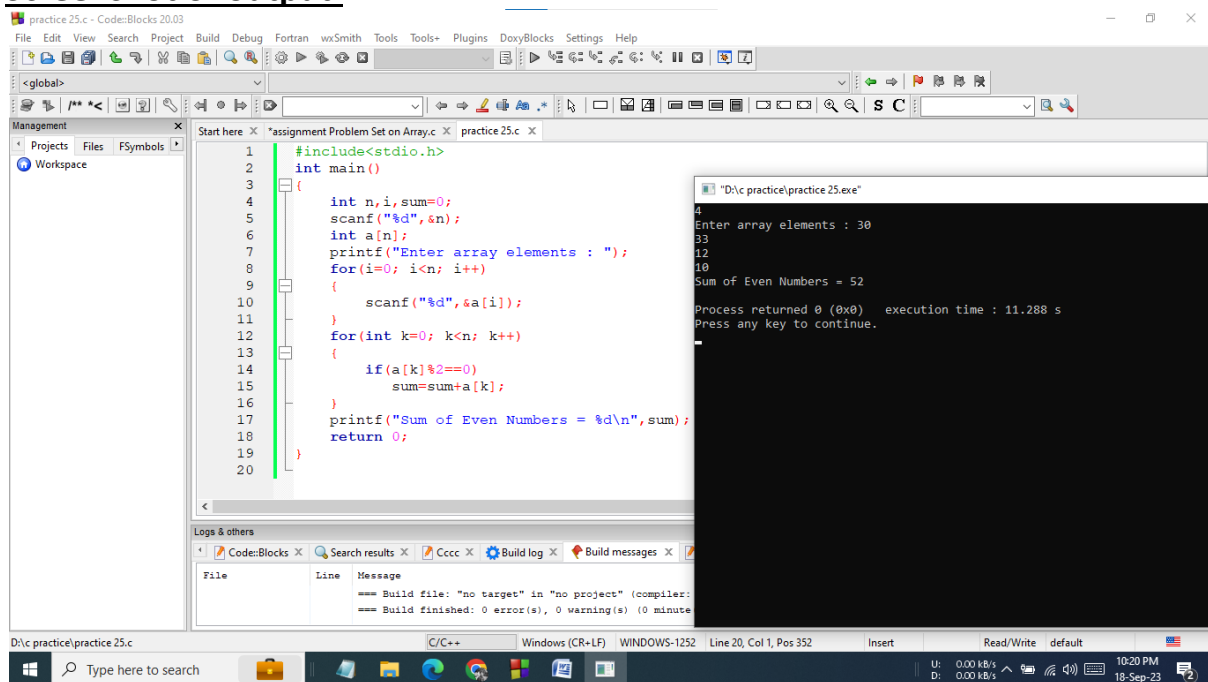
Problem Name: Write a C program that would only print the sum of all the even numbers in an array.

Source Code:

```
#include<stdio.h>

int main()
{
    int n,i,sum=0;
    scanf("%d",&n);
    int a[n];
    printf("Enter array elements : ");
    for(i=0; i<n; i++)
    {
        scanf("%d",&a[i]);
    }
    for(int k=0; k<n; k++)
    {
        if(a[k]%2==0)
            sum=sum+a[k];
    }
    printf("Sum of Even Numbers = %d\n",sum);
    return 0;
}
```

Screenshot of output:



Hand Written Code:

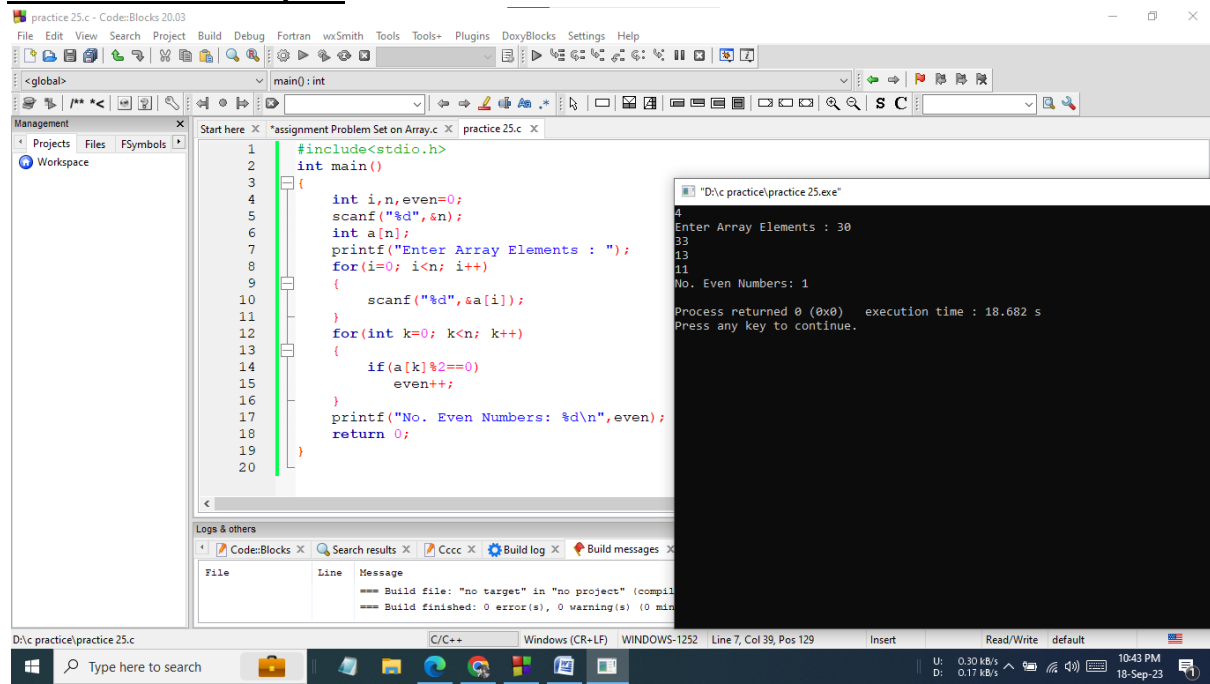
Problem No: 18

Problem Name: Write a C program that would count the even numbers in an array.

Source Code:

```
#include<stdio.h>
int main()
{
    int i,n,even=0;
    scanf("%d",&n);
    int a[n];
    printf("Enter Array Elements : ");
    for(i=0; i<n; i++)
    {
        scanf("%d",&a[i]);
    }
    for(int k=0; k<n; k++)
    {
        if(a[k]%2==0)
            even++;
    }
    printf("No. Even Numbers: %d\n",even);
    return 0;
}
```

Screenshot of output:



Hand Written Code:

Problem No: 19

Problem Name: Write a program in C to print the duplicate elements in an array.

Source Code:

```
#include<stdio.h>
int main()
{
    int n,i,j,k;
    scanf("%d",&n);
    int a[n],b[n];
    printf("Enter array elements :\n");
    for(i=0; i<n; i++)
    {
        scanf("%d",&a[i]);
    }
    printf("Duplicate :\n");
    for(i=0; i<n; i++)
    {
        for(j=i+1; j<n-1; j++)
        {
            if(a[i]==a[j])
                printf("%d\n",a[j]);
        }
    }
    return 0;
}
```

Screenshot of output:

The screenshot shows the Code::Blocks IDE with a C program open. The program prompts the user to enter array elements. The user has entered 10 elements: 90, 22, 11, 23, 21, 22, 22, 22, 22, 22. The program then prints the duplicate elements, which are 22. The execution time is 14.046 s.

```
practice 25.c - Code::Blocks 20.03
File Edit View Search Project Build Debug Fortran wxSmith Tools Tools+ Plugins DoxyBlocks Settings Help
<global> main() : int
Management
Projects Files FSymbols
Workspace
*assignment Problem Set on Array.c x practice 25.c x
1 #include<stdio.h>
2 int main()
3 {
4     int n,i,j,k;
5     scanf("%d",&n);
6     int a[n],b[n];
7     printf("Enter array elements :\n");
8     for(i=0; i<n; i++)
9     {
10         scanf("%d",&a[i]);
11     }
12     printf("Duplicate :\n");
13     for(i=0; i<n; i++)
14     {
15         for(j=i+1; j<n-1; j++)
16         {
17             if(a[i]==a[j])
18             {
19                 printf("%d\n",a[j]);
20             }
21         }
22     }
23     return 0;
24 }
D:\c practice\practice 25.exe
7
Enter array elements :
90
22
11
23
21
22
22
22
22
22
Duplicate :
22
Process returned 0 (0x0)   execution time : 14.046 s
Press any key to continue.
Logs & others
Code::Blocks x Search results x Cccc x Build log x Build message
File Line Message
== Build file: "no target" in "no project" (compilation failed)
D:\c practice\practice 25.c C/C++ Windows (CR+LF) WINDOWS-1252 Line 15, Col 25, Pos 285 Insert Read/Write default
Type here to search 5:05 PM 19-Sep-23
```

Hand Written Code:

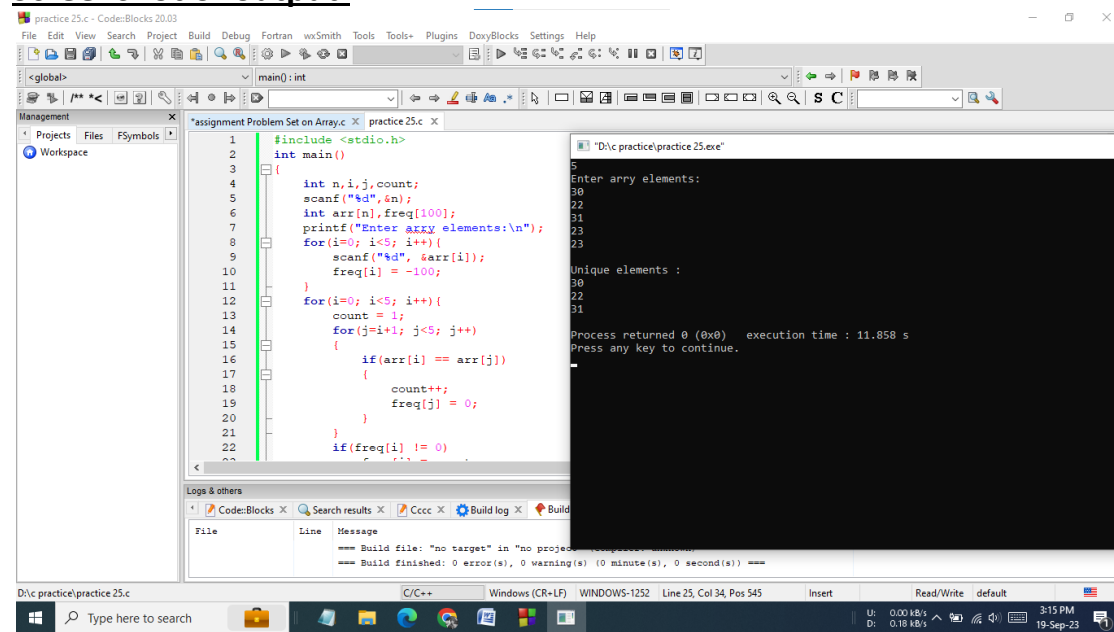
Problem No: 20

Problem Name: Write a program in C to print the duplicate elements in an array.

Source Code:

```
#include <stdio.h>
int main()
{
    int n,i,j,count;
    scanf("%d",&n);
    int arr[n],freq[100];
    printf("Enter array elements:\n");
    for(i=0; i<5; i++){
        scanf("%d", &arr[i]);
        freq[i] = -100;
    }
    for(i=0; i<5; i++){
        count = 1;
        for(j=i+1; j<5; j++)
        {
            if(arr[i] == arr[j])
            {
                count++;
                freq[j] = 0;
            }
        }
        if(freq[i] != 0)
            freq[i] = count;
    }
    printf("\nUnique elements :\n");
    for(i=0; i<5; i++){
        if(freq[i]==1)
            printf("%d\n", arr[i]);
    }
    return 0;
}
```

Screenshot of output:



Hand Written Code:

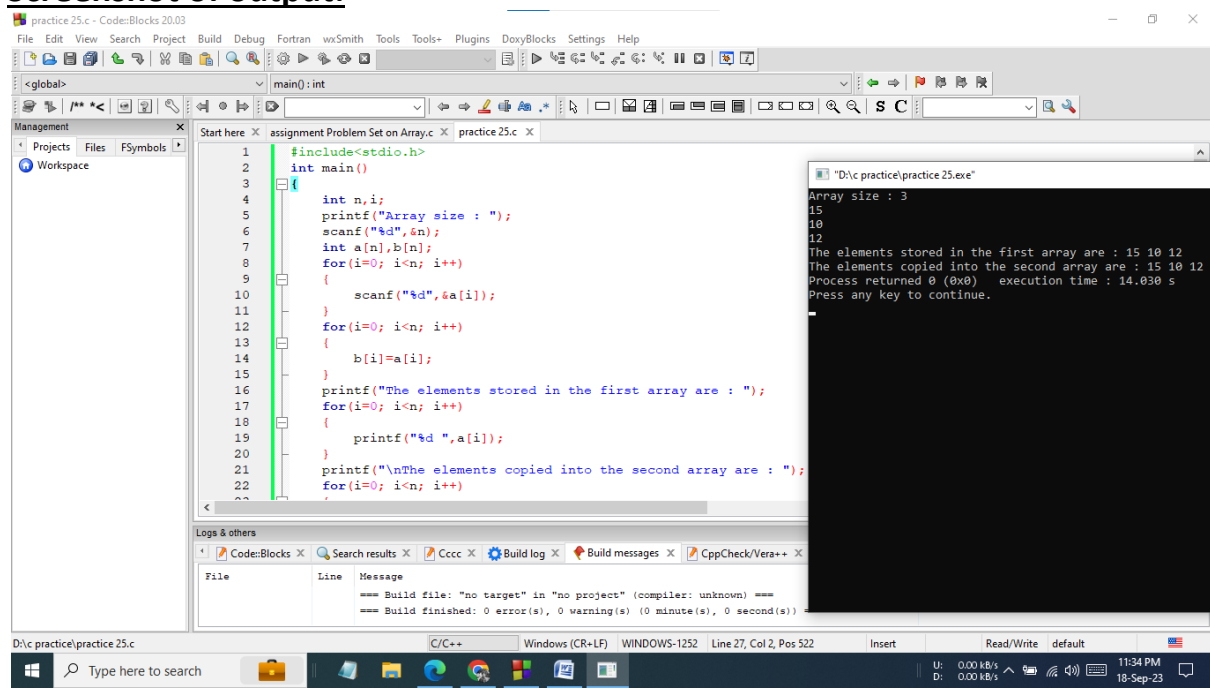
Problem No: 21

Problem Name: Take a N size array and array element taken from user. Write a program in C to copy the elements of one array into another array.

Source Code:

```
#include<stdio.h>
int main()
{
    int n,i;
    printf("Array size : ");
    scanf("%d",&n);
    int a[n],b[n];
    for(i=0; i<n; i++)
    {
        scanf("%d",&a[i]);
    }
    for(i=0; i<n; i++)
    {
        b[i]=a[i];
    }
    printf("The elements stored in the first array are : ");
    for(i=0; i<n; i++)
    {
        printf("%d ",a[i]);
    }
    printf("\nThe elements copied into the second array are : ");
    for(i=0; i<n; i++)
    {
        printf("%d ",b[i]);
    }
    return 0;
}
```

Screenshot of output:



Hand Written Code:

Problem No: 22

Problem Name: Write a program in C to sort elements of an array in ascending order.

Source Code:

```
#include<stdio.h>
int main()
{
    int n,i,j,temp;
    scanf("%d",&n);
    int a[n];
    for(i=0; i<n; i++)
    {
        scanf("%d",&a[i]);
    }
    for(i=0; i<n; i++)
    {
        for(j=i+1; j<n; j++)
        {
            if(a[i]>a[j])
            {
                temp=a[i];
                a[i]=a[j];
                a[j]=temp;
            }
        }
    }
    for(i=0; i<n; i++)
        printf("%d ",a[i]);
    return 0;
}
```

Screenshot of output:

The screenshot shows the Code::Blocks IDE with the following components:

- Editor:** Displays the C source code for sorting an array. The code includes `<stdio.h>`, defines `main()`, reads the array size `n` and elements `a[i]`, implements a bubble sort algorithm, and prints the sorted array.
- Output Console:** Shows the execution output. It displays the sorted array `2 3 4 6 8`, the message `Process returned 0 (0x0) execution time : 1.706 s`, and `Press any key to continue.`
- Build Log:** Shows the build process completion with the message: `=== Build finished: 0 error(s), 0 warning(s) (0 minute(s), 0 second(s)) ===`

Hand Written Code:

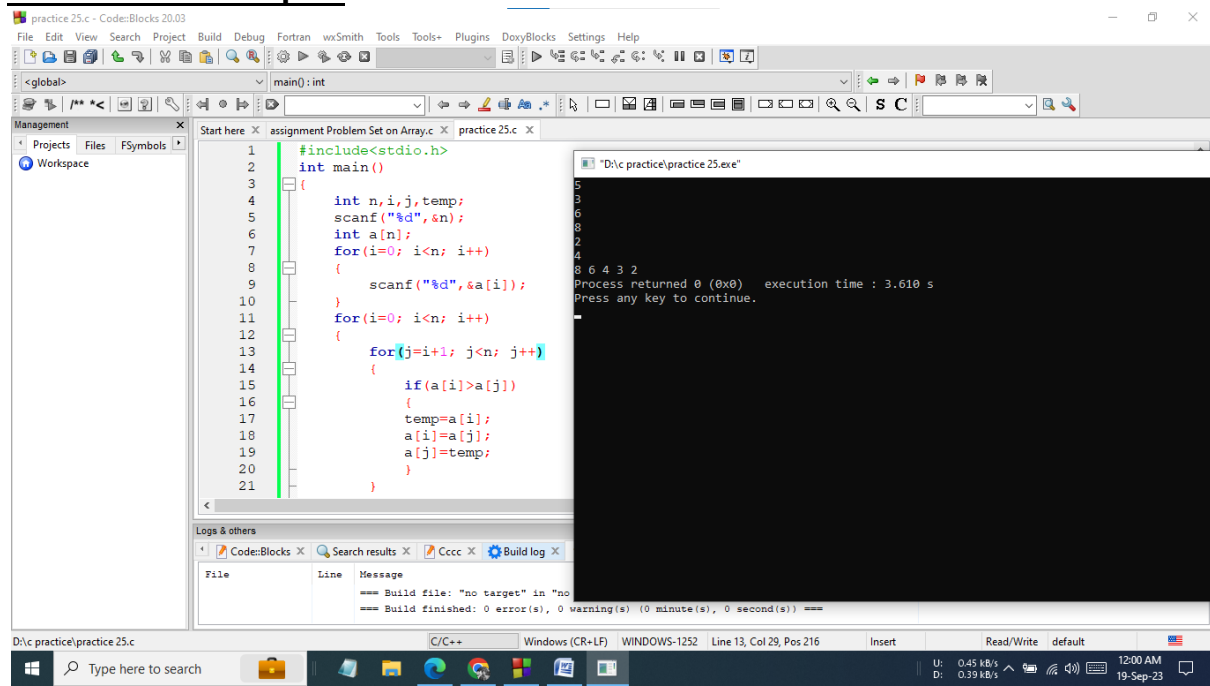
Problem No: 23

Problem Name: Write a program in C to sort the elements of the array in descending order.

Source Code:

```
#include<stdio.h>
int main()
{
    int n,i,j,temp;
    scanf("%d",&n);
    int a[n];
    for(i=0; i<n; i++)
    {
        scanf("%d",&a[i]);
    }
    for(i=0; i<n; i++)
    {
        for(j=i+1; j<n; j++)
        {
            if(a[i]>a[j])
            {
                temp=a[i];
                a[i]=a[j];
                a[j]=temp;
            }
        }
    }
    for(i=n-1; i>=0; i--)
        printf("%d ",a[i]);
    return 0;
}
```

Screenshot of output:



Hand Written Code:

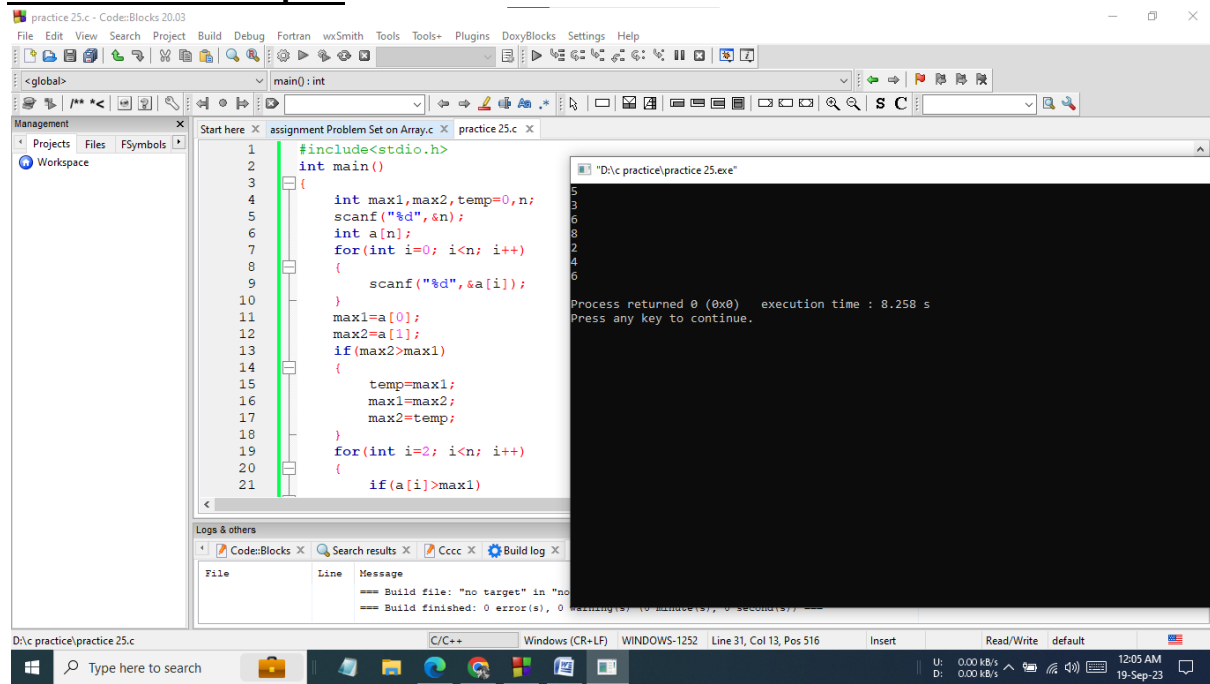
Problem No: 24

Problem Name: Write a program in C to find the second largest element in an array..

Source Code:

```
#include<stdio.h>
int main()
{
    int max1,max2,temp=0,n;
    scanf("%d",&n);
    int a[n];
    for(int i=0; i<n; i++)
    {
        scanf("%d",&a[i]);
    }
    max1=a[0];
    max2=a[1];
    if(max2>max1)
    {
        temp=max1;
        max1=max2;
        max2=temp;
    }
    for(int i=2; i<n; i++)
    {
        if(a[i]>max1)
        {
            max2=max1;
            max1=a[i];
        }
        else if(a[i]>=max2)
        {
            max2=a[i];
        }
    }
    printf("%d\n",max2);
    return 0;
}
```

Screenshot of output:



The screenshot displays the Code::Blocks IDE interface. The main editor window shows a C program titled "practice 25.c" with the following code:

```
1 #include<stdio.h>
2 int main()
3 {
4     int max1,max2,temp=0,n;
5     scanf("%d",&n);
6     int a[n];
7     for(int i=0; i<n; i++)
8     {
9         scanf("%d",&a[i]);
10    }
11    max1=a[0];
12    max2=a[1];
13    if(max2>max1)
14    {
15        temp=max1;
16        max1=max2;
17        max2=temp;
18    }
19    for(int i=2; i<n; i++)
20    {
21        if(a[i]>max1)
```

The output window, titled "D:\c practice\practice 25.exe", shows the execution results:

```
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
Process returned 0 (0x0)   execution time : 8.258 s
Press any key to continue.
```

The status bar at the bottom indicates the file path "D:\c practice\practice 25.c", the compiler "C/C++", and the current line and column "Line 31, Col 13, Pos 516".

Hand Written Code:

Problem No: 25

Problem Name: Write a program in C to find the second smallest element in an array.

Source Code:

```
#include<stdio.h>
int main()
{
    int min1,min2,temp=0,n;
    scanf("%d",&n);
    int a[n];
    for(int i=0; i<n; i++)
    {
        scanf("%d",&a[i]);
    }
    min1=a[0];
    min2=a[1];
    if(min2<min1)
    {
        temp=min1;
        min1=min2;
        min2=temp;
    }
    for(int i=2; i<n; i++)
    {
        if(a[i]<min1)
        {
            min2=min1;
            min1=a[i];
        }
        else if(a[i]<=min2)
        {
            min2=a[i];
        }
    }
    printf("%d\n",min2);
    return 0;
}
```

Screenshot of output:

The screenshot displays the Code::Blocks IDE interface. The main editor window shows a C++ program named 'practice 25.c'. The code is as follows:

```
1 #include<stdio.h>
2 int main()
3 {
4     int min1,min2,temp=0,n;
5     scanf("%d",&n);
6     int a[n];
7     for(int i=0; i<n; i++)
8     {
9         scanf("%d",&a[i]);
10    }
11    min1=a[0];
12    min2=a[1];
13    if(min2<min1)
14    {
15        temp=min1;
16        min1=min2;
17        min2=temp;
18    }
19    for(int i=2; i<n; i++)
20    {
21        if(a[i]<min1)
22        {
23            min2=min1;
24            min1=a[i];
25        }
26    }
27 }
```

The 'Logs & others' panel at the bottom shows the build process:

```
==== Build file: "no target"
==== Build finished: 0 error(s), 0 warning(s) (0 minute(s), 0 second(s)) ====
```

A terminal window titled 'D:\c practice\practice 25.exe' is open, showing the program's execution output:

```
Process returned 0 (0x0)   execution time : 1.844 s
Press any key to continue.
```

The status bar at the bottom indicates the file path 'D:\c practice\practice 25.c', the compiler 'C/C++', and the current line and column 'Line 23, Col 23, Pos 385'.

Hand Written Code:

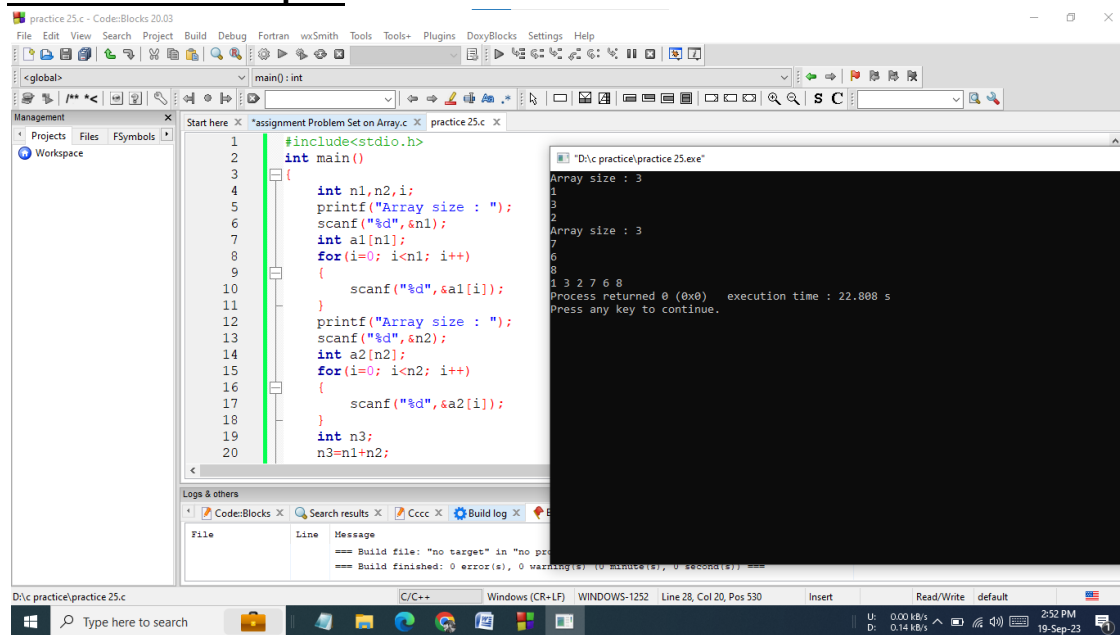
Problem No: 26

Problem Name: Write a program in C to merge two arrays of the same size.

Source Code:

```
#include<stdio.h>
int main()
{
    int n1,n2,i;
    printf("Array size : ");
    scanf("%d",&n1);
    int a1[n1];
    for(i=0; i<n1; i++)
    {
        scanf("%d",&a1[i]);
    }
    printf("Array size : ");
    scanf("%d",&n2);
    int a2[n2];
    for(i=0; i<n2; i++)
    {
        scanf("%d",&a2[i]);
    }
    int n3;
    n3=n1+n2;
    int a3[100];
    int temp=0;
    for(i=0; i<n1; i++)
        a3[i]=a1[i];
    for(i=0; i<n2; i++)
        a3[i+n1]=a2[i];
    for(i=0; i<n3; i++)
        printf("%d ",a3[i]);
    return 0;
}
```

Screenshot of output:



Hand Written Code:

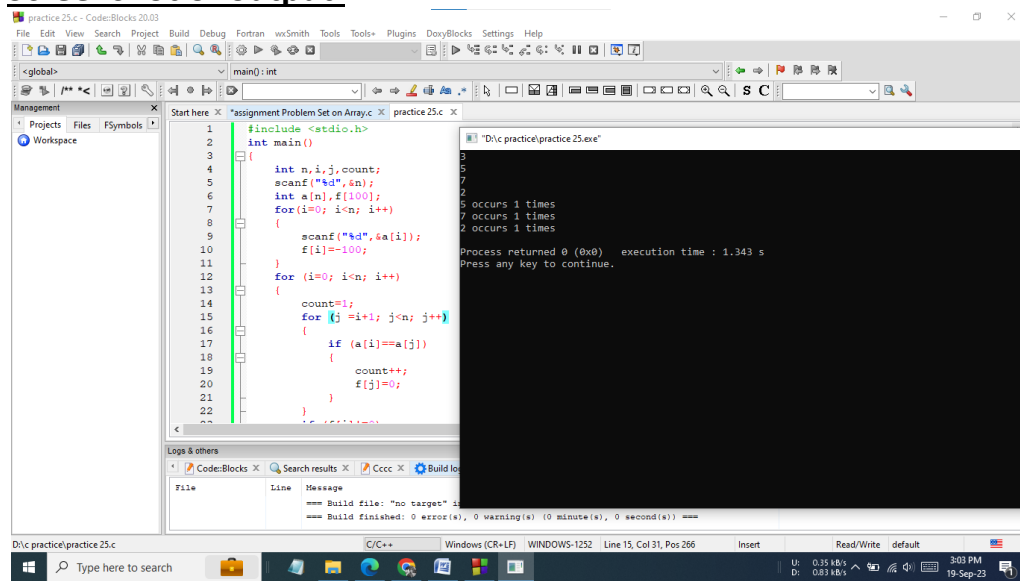
Problem No: 27

Problem Name: Write a program in C to count the frequency of each element of an array.

Source Code:

```
#include <stdio.h>
int main()
{
    int n,i,j,count;
    scanf("%d",&n);
    int a[n],f[100];
    for(i=0; i<n; i++)
    {
        scanf("%d",&a[i]);
        f[i]=-100;
    }
    for (i=0; i<n; i++)
    {
        count=1;
        for (j =i+1; j<n; j++)
        {
            if (a[i]==a[j])
            {
                count++;
                f[j]=0;
            }
        }
        if (f[i]!=0)
            f[i]=count;
    }
    for (i=0; i<n; i++)
    {
        if (f[i]!=0)
            printf("%d occurs %d times\n",a[i],f[i]);
    }
    return 0;
}
```

Screenshot of output:



Hand Written Code: