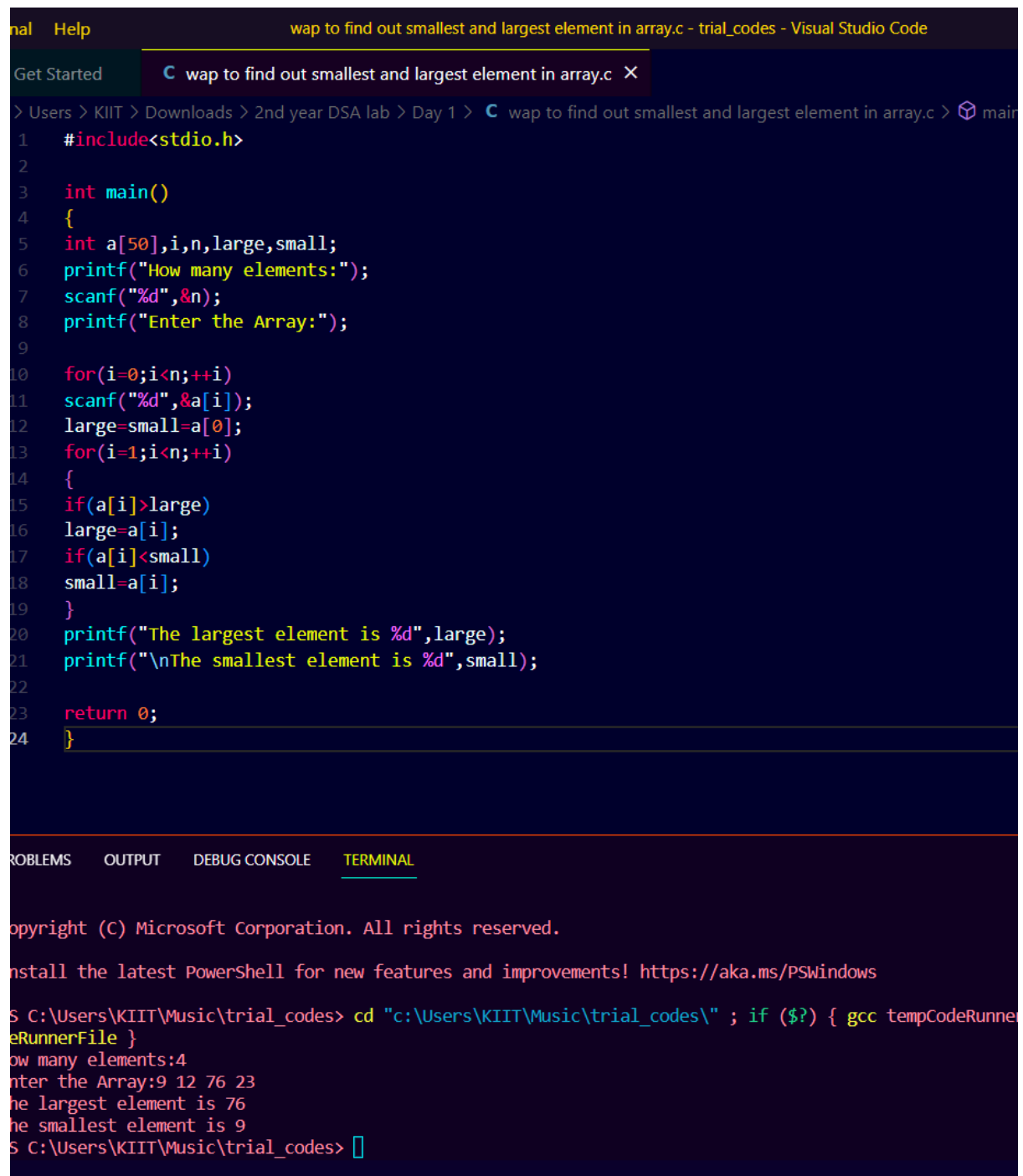


Q1-WAP to find out the smallest and largest element stored in an array of n integers



```
nal  Help  wap to find out smallest and largest element in array.c - trial_codes - Visual Studio Code

Get Started  C wap to find out smallest and largest element in array.c X

> Users > KIIT > Downloads > 2nd year DSA lab > Day 1 > C wap to find out smallest and largest element in array.c > main
1  #include<stdio.h>
2
3  int main()
4  {
5  int a[50],i,n,large,small;
6  printf("How many elements:");
7  scanf("%d",&n);
8  printf("Enter the Array:");
9
10 for(i=0;i<n;++i)
11 scanf("%d",&a[i]);
12 large=small=a[0];
13 for(i=1;i<n;++i)
14 {
15 if(a[i]>large)
16 large=a[i];
17 if(a[i]<small)
18 small=a[i];
19 }
20 printf("The largest element is %d",large);
21 printf("\nThe smallest element is %d",small);
22
23 return 0;
24 }
```

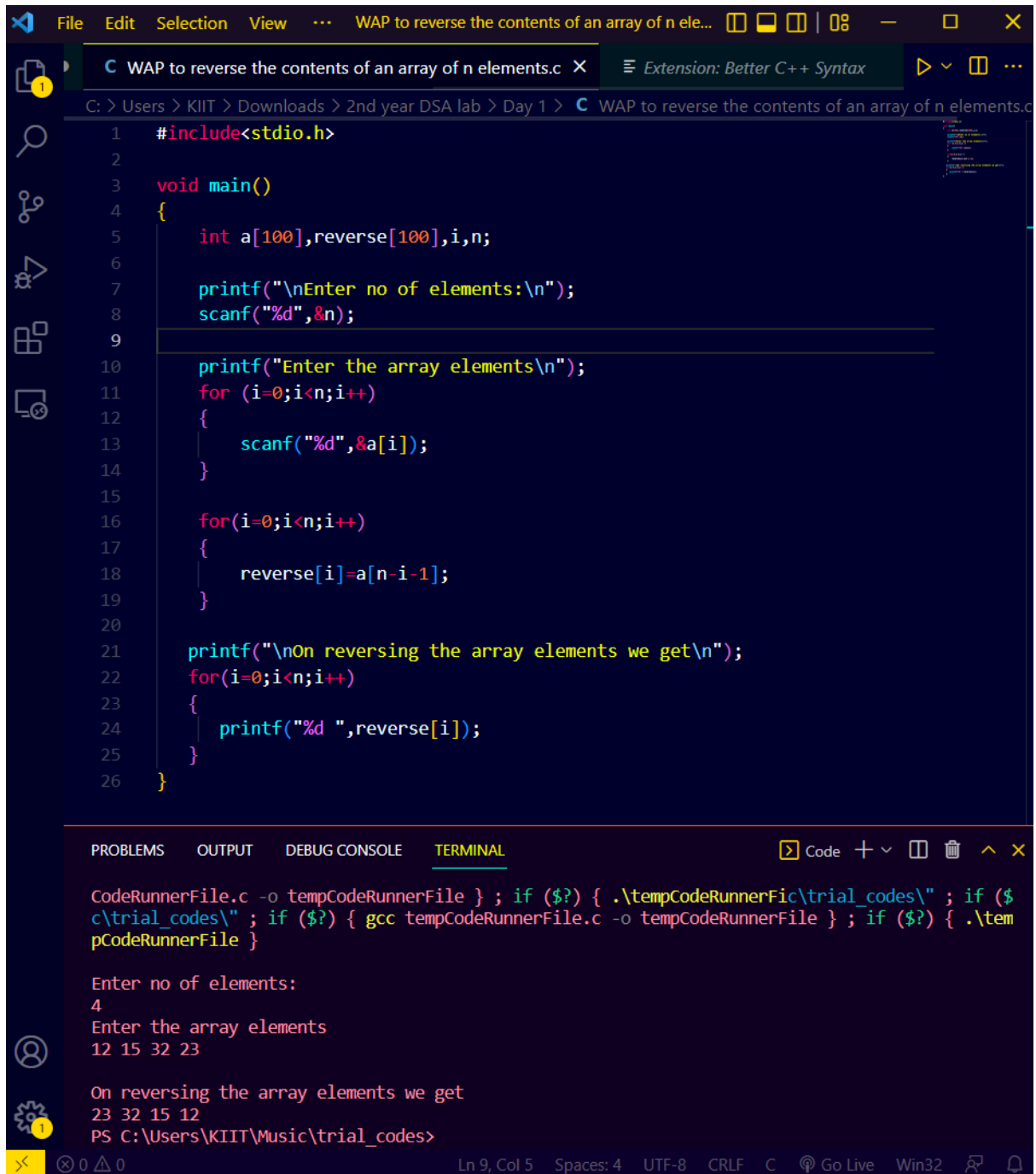
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

S C:\Users\KIIT\Music\trial_codes> cd "c:\Users\KIIT\Music\trial_codes\" ; if ($?) { gcc tempCodeRunne
eRunnerFile }
How many elements:4
Enter the Array:9 12 76 23
The largest element is 76
The smallest element is 9
S C:\Users\KIIT\Music\trial_codes> 
```

Q2-WAP to reverse the contents of an array of n elements.



```
1  #include<stdio.h>
2
3  void main()
4  {
5      int a[100],reverse[100],i,n;
6
7      printf("\nEnter no of elements:\n");
8      scanf("%d",&n);
9
10     printf("Enter the array elements\n");
11     for (i=0;i<n;i++)
12     {
13         scanf("%d",&a[i]);
14     }
15
16     for(i=0;i<n;i++)
17     {
18         reverse[i]=a[n-i-1];
19     }
20
21     printf("\nOn reversing the array elements we get\n");
22     for(i=0;i<n;i++)
23     {
24         printf("%d ",reverse[i]);
25     }
26 }
```

CodeRunnerFile.c -o tempCodeRunnerFile } ; if (\$?) { .\tempCodeRunnerFic\trial\_codes\" ; if (\$? c\trial\_codes\" ; if (\$?) { gcc tempCodeRunnerFile.c -o tempCodeRunnerFile } ; if (\$?) { .\tem pCodeRunnerFile }

Enter no of elements:  
4  
Enter the array elements  
12 15 32 23

On reversing the array elements we get  
23 32 15 12  
PS C:\Users\KIIT\Music\trial\_codes>

Ln 9, Col 5 Spaces: 4 UTF-8 CRLF C Go Live Win32

Q3- WAP to search an element in an array of n numbers.

main.c	Output
<pre>1 int main() 2 { 3     int arr[100]; 4     int n, i, a, t=0; 5 6     printf("Enter size of array: "); 7     scanf("%d", &amp;n); 8 9     printf("Enter elements in array: "); 10    for(i=0; i&lt;n; i++) 11    { 12        scanf("%d", &amp;arr[i]); 13    } 14 15    printf("Enter element to search: "); 16    scanf("%d", &amp;a); 17 18    for(i=0; i&lt;n; i++) 19    { 20        if(arr[i] == a) 21        { 22            t = 1; 23            break; 24        } 25    } 26</pre>	<pre>/tmp/KyE8CDjgen.o Enter size of array: 4 Enter elements in array: 12 45 67 89 Enter element to search: 66 66 is not found in the array</pre>

Q4- WAP to sort an array of n numbers.

The screenshot shows a Visual Studio Code editor with a C program for sorting an array using bubble sort. The code is as follows:

```
16 for(i=0; i<n; i++)
17 {
18     for(j=i+1; j<n; j++)
19     {
20         if(a[i]>a[j])
21         {
22             temp=a[i];
23             a[i]=a[j];
24             a[j]=temp;
25         }
26     }
27 }
28 printf("Elements sorted in ascending order are\n");
29 for(i=0; i<n; i++)
30 {
31     printf("%d ", a[i]);
32 }
33 }
```

The terminal output shows the execution of the program:

```
f ($?) { .\tempCodeRunnerFile }
Enter the number of elements:
4
Enter the elements
21 76 54 90 73
Elements sorted in ascending order are
21 54 76 90
PS C:\Users\KIIIT\Music\trial_codes> ^C
PS C:\Users\KIIIT\Music\trial_codes> 
```

Q5- Given an unsorted array of size n, WAP to find number of elements between two elements a and b (both inclusive). Input : arr = [1, 2, 2, 7, 5, 4], a=2 and b=5 Output : 4 (The numbers are: 2, 2, 5, 4) If a=6 b=15, then output will be 0

main.c	Output
<pre>1 #include &lt;stdio.h&gt; 2 3 int main() 4 { 5     int arr[50], n, i, a, b, c=0, d=2; 6 7     printf("Enter size of array: "); 8     scanf("%d", &amp;n); 9 10    for(i=0; i&lt;n; i++){ 11        printf("Enter elements of array: "); 12        scanf("%d", &amp;arr[i]); 13    } 14 15    printf("\nEnter lower limit element &amp; upper limit element respectively: "); 16    scanf("%d %d", &amp;a, &amp;b); 17 18    for(i=0; i&lt;n; i++){ 19        if(arr[i]==a    arr[i]==b){ 20            c++; 21            d=0; 22        } 23 24        if(arr[i]&gt;a &amp;&amp; arr[i]&lt;b){ 25            c++; 26        } 27    } 28 29    printf("Number of elements in between two elements (Both Inclusive) = %d", c+d); 30 31    return 0; 32 33 }</pre>	<pre>/tmp/KyE8CDjgen.o Enter size of array: 4 Enter elements of array: 12 34 53 67 Enter elements of array: Enter elements of array: Enter elements of array: Enter lower limit element &amp; upper limit element respectively: 12 67 Number of elements in between two elements (Both Inclusive) = 4</pre>

Submitted by-Ankit Mohapatra

Roll No-2105009