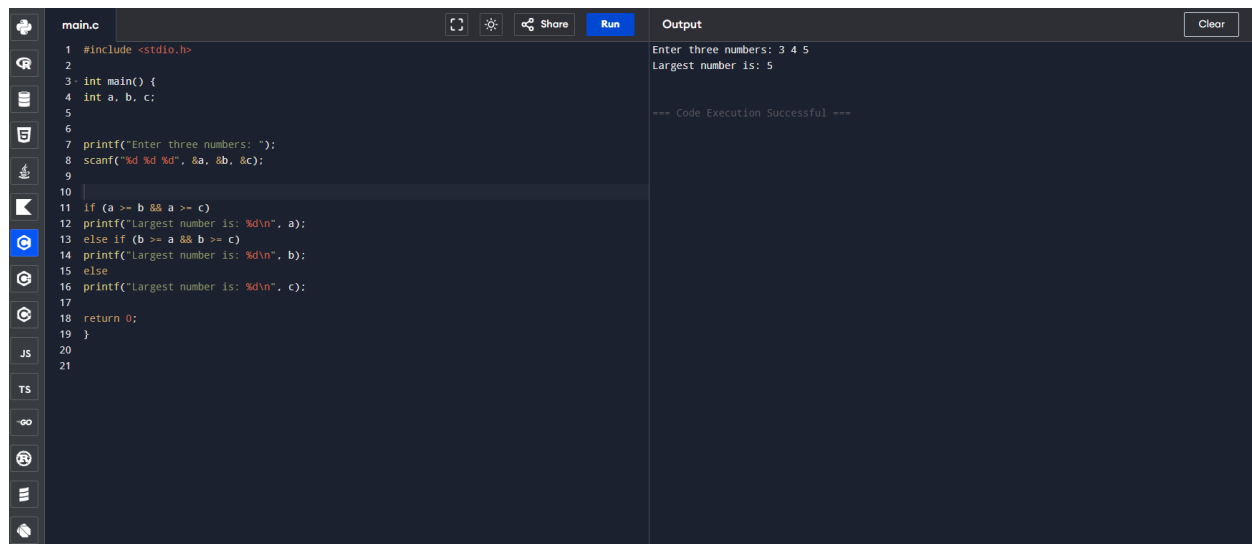


## C Programming Day 10

### Task 9

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#### Code 1



The screenshot shows a C programming IDE with a dark theme. On the left is a sidebar with icons for file explorer, search, and other IDE functions. The main editor area displays a C program named 'main.c'. The code is as follows:

```
1 #include <stdio.h>
2
3 int main() {
4     int a, b, c;
5
6
7     printf("Enter three numbers: ");
8     scanf("%d %d %d", &a, &b, &c);
9
10
11     if (a >= b && a >= c)
12         printf("Largest number is: %d\n", a);
13     else if (b >= a && b >= c)
14         printf("Largest number is: %d\n", b);
15     else
16         printf("Largest number is: %d\n", c);
17
18     return 0;
19 }
20
21
```

At the top of the editor, there are buttons for 'Share', 'Run', and 'Clear'. The 'Run' button is highlighted in blue. To the right of the code editor is an 'Output' panel. It contains the text: 'Enter three numbers: 3 4 5', 'Largest number is: 5', and '== Code Execution Successful =='.

#### Code 2

main.c

Share

Run

```
1 // C Program to swap two numbers using a temporary variable
2
3 #include<stdio.h>
4 int main(){
5     int a,b,temp;
6
7     printf("Enter two numbers:");
8     scanf("%d %d",&a,&b);
9
10    temp=a;
11    a=b;
12    b=temp;
13
14
15    printf("After swapping:\n");
16    printf("a=%d\n",a);
17    printf("b=%d\n",b);
18    return 0;
19 }
20
```

Output

Clear

Enter two numbers:4 5  
After swapping:  
a=5  
b=4  
  
=== Code Execution Successful ===

## Code 3

main.c

Share

Run

```
1 //find whether the number is in range or not
2 #include <stdio.h>
3
4 int main() {
5     int lower, upper, num;
6
7     printf("Enter lower limit and upper limit: "); scanf("%d %d", &lower, &upper);
8
9     printf("Enter a number: "); scanf("%d", &num);
10
11     if (num >= lower && num <= upper) printf("Number is within the range");
12     else
13     printf("Number is outside the range");
14
15     return 0;
16 }
```

Output

Clear

Enter lower limit and upper limit: 10 20  
Enter a number: 15  
Number is within the range  
  
=== Code Execution Successful ===

## Code 4

main.c

Share

Run

Output

Clear

```
1 #include <stdio.h>
2
3 int main() {
4     int i;
5     float f;
6
7
8     printf("Enter an integer: ");
9     scanf("%d", &i);
10
11
12     float floatValue = i;
13
14
15     printf("Enter a float number: ");
16     scanf("%f", &f);
17
18
19     int intValue = f;
20
21
22     printf("\nInteger to Float conversion:");
23     printf("\nInteger = %d, Converted Float = %.2f", i, floatValue);
24
25     printf("\n\nFloat to Integer conversion:");
26     printf("\nFloat = %.2f, Converted Integer = %d", f, intValue);
27
28     return 0;
29 }
30
31
32
```

```
Enter an integer: 4
Enter a float number: 5.00

Integer to Float conversion:
Integer = 4, Converted Float = 4.00

Float to Integer conversion:
Float = 5.00, Converted Integer = 5

=== Code Execution Successful ===
```

## Code 5

main.c

Share

Run

Output

Clear

```
1 //find whether the number is positive or negative
2 #include <stdio.h>
3
4 int main() { int num;
5     printf("Enter a number: "); scanf("%d", &num);
6
7     if(num > 0)
8         printf("Positive number"); else if(num < 0)
9             printf("Negative number"); else
10                printf("Zero"); return 0;
11 }
12
```

```
Enter a number: 6
Positive number

=== Code Execution Successful ===
```

## Code 6

main.c

Share

Run

Output

Clear

```
1 //find size of functions
2 #include <stdio.h>
3
4 int main() {
5     printf("Size of int: %lu bytes\n", sizeof(int)); printf("Size of float: %lu bytes\n", sizeof
        (float)); printf("Size of double: %lu bytes\n", sizeof(double)); printf("Size of char: %lu
        byte\n", sizeof(char)); return 0;
6 }
7
```

```
Size of int: 4 bytes
Size of float: 4 bytes
Size of double: 8 bytes
Size of char: 1 byte

=== Code Execution Successful ===
```

## Code 7

main.c

Share

Run

Output

Clear

```
1 //basic calculator
2 #include <stdio.h>
3 int main() {
4     int choice; float a, b;
5
6     while(1) { printf("\n1.Add\n2.Subtract\n3.Multiply\n4.Divide\n5.Exit\n"); printf("Enter
        choice: ");
7         scanf("%d", &choice);
8
9         if(choice == 5) break;
10
11        printf("Enter two numbers: "); scanf("%f %f", &a, &b);
12
13        switch(choice) {
14            case 1: printf("Result = %.2f", a + b); break; case 2: printf("Result = %.2f", a - b); break;
                case 3: printf("Result = %.2f", a * b); break; case 4: printf("Result = %.2f", a / b);
                    break;
15            default: printf("Invalid choice");
16        }
17    }
18    return 0;
19 }
20
21
22
```

```
1.Add
2.Subtract
3.Multiply
4.Divide
5.Exit
Enter choice: 1
Enter two numbers: 3 2
Result = 5.00
1.Add
2.Subtract
3.Multiply
4.Divide
5.Exit
Enter choice: 2
Enter two numbers: 5 3
Result = 2.00
1.Add
2.Subtract
3.Multiply
4.Divide
5.Exit
Enter choice: 3
Enter two numbers: 5 3
Result = 15.00
1.Add
2.Subtract
3.Multiply
4.Divide
5.Exit
Enter choice: 5
```

## Code 8

main.c

Share

Run

```
1 #include <stdio.h>
2 int gcd(int a, int b) {
3     if(b == 0) return a;
4     return gcd(b, a % b);
5 }
6
7 int main() { int a, b;
8     printf("Enter two numbers: "); scanf("%d %d", &a, &b);
9
10    int g = gcd(a, b); int lcm = (a * b) / g;
11    printf("GCD = %d\nLCM = %d", g, lcm); return 0;
12 }
13
```

Output

Clear

Enter two numbers: 5 4  
GCD = 1  
LCM = 20  
  
=== Code Execution Successful ===

## Code 9

main.c

Share

Run

```
1 // string length, concatenate, and compare
2 #include <stdio.h>
3 #include <string.h>
4
5 int main() {
6     char s1[50], s2[50]; printf("Enter first string: "); scanf("%s", s1);
7     printf("Enter second string: "); scanf("%s", s2);
8
9     printf("Length of s1 = %lu\n", strlen(s1)); printf("Copy s2 to s1 = %s\n", strcpy(s1, s2));
10    printf("Concatenation = %s\n", strcat(s1, s2)); printf("Comparison = %d\n", strcmp(s1, s2));
11
12    return 0;
13 }
```

Output

Clear

Enter first string: sar  
Enter second string: gam  
Length of s1 = 3  
Copy s2 to s1 = gam  
Concatenation = gamgam  
Comparison = 103  
  
=== Code Execution Successful ===

## Code 10

Programiz  
C Online Compiler

main.c

Share

Run

```
1 #include <stdio.h>
2
3 struct Book { char title[30];
4 char author[30]; float price;
5 };
6
7 int main() {
8 struct Book b[2] = {
9 {"C Programming", "Dennis", 450},
10 {"Data Structures", "Mark", 550}
11 };
12
13 for(int i = 0; i < 2; i++) {
14 printf("\nTitle: %s\nAuthor: %s\nPrice: %.2f\n", b[i].title, b[i].author, b[i].price);
15 }
16 return 0;
17 }
```

Output

Clear

Title: C Programming  
Author: Dennis  
Price: 450.00  
  
Title: Data Structures  
Author: Mark  
Price: 550.00  
  
--- Code Execution Successful ---

## Code 11

main.c

Share

Run

```
1 //swap using external type
2 #include <stdio.h>
3 int main() {
4 int a[5] = {1,2,3,4,5};
5 int start = 0, end = 4, temp;
6
7 while(start < end) { temp = a[start]; a[start] = a[end]; a[end] = temp; start++;
8 end--;
9 }
10
11 for(int i = 0; i < 5; i++) printf("%d ", a[i]);
12
13 return 0;
14 }
15
```

Output

Clear

5 4 3 2 1  
  
--- Code Execution Successful ---

## Code 12

main.c

Share

Run

```
1 //find sum using array
2 #include <stdio.h>
3
4 int sumArray(int a[], int n) { int sum = 0;
5 for(int i = 0; i < n; i++) sum += a[i];
6 return sum;
7 }
8
9 int main() {
10 int a[5] = {1,2,3,4,5};
11 printf("Sum = %d", sumArray(a,5)); return 0;
12 }
13
14
```

Output

Clear

Sum = 15

=== Code Execution Successful ===

## Code 13

main.c

Share

Run

```
1 //Left rotate array by k positions
2 #include <stdio.h>
3 int main() {
4 int a[5] = {1,2,3,4,5}, k = 2, temp;
5
6 for(int i = 0; i < k; i++) { temp = a[0];
7 for(int j = 0; j < 4; j++) a[j] = a[j+1];
8 a[4] = temp;
9 }
10
11 for(int i = 0; i < 5; i++) printf("%d ", a[i]);
12
13 return 0;
14 }
```





Output

Clear




3 4 5 1 2

=== Code Execution Successful ===

## Code 14

main.c	  	Output	
<pre>1 //Check if two 2D arrays are equal 2 #include &lt;stdio.h&gt; 3 int main() { 4     int a[2][2] = {{1,2},{3,4}}; 5     int b[2][2] = {{1,2},{3,4}}; 6     int flag = 1; 7 8     for(int i = 0; i &lt; 2; i++) for(int j = 0; j &lt; 2; j++) 9         if(a[i][j] != b[i][j]) flag = 0; 10 11     if(flag) 12         printf("Arrays are equal"); else 13         printf("Arrays are not equal"); 14 15     return 0; 16 } 17</pre>		<pre>Arrays are equal === Code Execution Successful ===</pre>	

## Code 15

main.c	  	Output
<pre>1 #include &lt;stdio.h&gt; 2 3 int main() { 4     char str[100]; 5     int count = 0; 6 7     printf("Enter a string: "); 8     // fgets allows spaces in the input, unlike scanf 9     fgets(str, sizeof(str), stdin); 10 11     for (int i = 0; str[i] != '\0'; i++) { 12         if (str[i] == ' ') { 13             count++; 14         } 15     } 16 17     printf("Total blank spaces: %d\n", count); 18     return 0; 19 } 20</pre>		<pre>Enter a string: Hello World this is C program Total blank spaces: 5  === Code Execution Successful ===</pre>

## Code 16

main.c	Output
<pre>1 #include &lt;stdio.h&gt; 2 3 int main(void) 4 { 5     int a[2][2] = { {1, 2}, {1, 2} }; 6     int visited[2][2] = { {0, 0}, {0, 0} }; 7 8     for (int i = 0; i &lt; 2; i++) { 9         for (int j = 0; j &lt; 2; j++) { 10 11             if (visited[i][j]) 12                 continue; 13 14             int count = 1; 15 16             for (int x = i; x &lt; 2; x++) { 17                 int yStart = (x == i) ? (j + 1) : 0; 18                 for (int y = yStart; y &lt; 2; y++) { 19                     if (a[i][j] == a[x][y]) { 20                         count++; 21                         visited[x][y] = 1; 22                     } 23                 } 24             } 25 26             printf("%d occurs %d times\n", a[i][j], count); 27         } 28     } 29 30     return 0; 31 }</pre>	<pre>1 occurs 2 times 2 occurs 2 times  --- Code Execution Successful ---</pre>

## Code 17

main.c	Output
<pre>1 //using bubble sort, sort in descending order 2 #include &lt;stdio.h&gt; 3 4 void bubbleSort(int a[], int n) { for(int i = 0; i &lt; n-1; i++) 5     for(int j = 0; j &lt; n-1-i; j++) if(a[j] &lt; a[j+1]) { 6         int t = a[j]; a[j] = a[j+1]; a[j+1] = t; 7     } 8 } 9 10 int main() { 11     int a[5] = {3,1,5,2,4}; 12     bubbleSort(a,5); 13 14     for(int i = 0; i &lt; 5; i++) printf("%d ", a[i]); 15 16     return 0; 17 } 18</pre>	<pre>5 4 3 2 1  --- Code Execution Successful ---</pre>

## Code 18

main.c

Share

Run

```
1 //Count vowels and consonants
2 #include <stdio.h>
3 int main() {
4     int decimal, binary[32], i = 0;
5
6     printf("Enter a decimal number: "); scanf("%d", &decimal);
7
8     if (decimal == 0) { printf("Binary number: 0");
9     return 0;
10 }
11
12 while (decimal > 0) { binary[i] = decimal % 2; decimal = decimal / 2; i++;
13 }
14
15 printf("Binary number: "); for (int j = i - 1; j >= 0; j--) {
16     printf("%d", binary[j]);
17 }
18
19 return 0;
20 }
21
```

Output

Clear

Enter a decimal number: 3.67  
Binary number: 11  
  
=== Code Execution Successful ===

## Code 19

main.c

Share

Run

```
1 //give max and min no. from the array
2 #include <stdio.h>
3 int main() {
4     int a[5] = {4,2,9,12,16};
5     int max = a[0], min = a[0];
6
7     for(int i = 1; i < 5; i++) { if(a[i] > max) max = a[i];
8     if(a[i] < min) min = a[i];
9 }
10
11 printf("Max = %d\nMin = %d", max, min); return 0;
12 }
13
```

Output

Clear

Max = 16  
Min = 2  
  
=== Code Execution Successful ===

## Code 20

main.c

Share

Run

```
1 #include <stdio.h>
2
3
4 void transpose(int a[2][2]) {
5     for(int i=0;i<2;i++) { for(int j=0;j<2;j++)
6         printf("%d ", a[j][i]); printf("\n");
7     }
8 }
9
10
11 int main() {
12     int a[2][2]={1,2},{3,4};
13     transpose(a); return 0;
14 }
15
16
```

Output

Clear

```
1 3
2 4

=== Code Execution Successful ===
```

-----The End-----