



**GLA**  
UNIVERSITY  
MATHURA  
Recognised by UGC Under Section 2(f)

Accredited with **A** Grade by **NAAC**

**12-B Status from UGC**

---

# **C - PROGRAMMING** **LAB PROJECT WORK**

SUBMITTED BY \_\_\_\_\_ SUBMITTED TO

**SURUCHI TYAGI**

**SECTION – Q2**

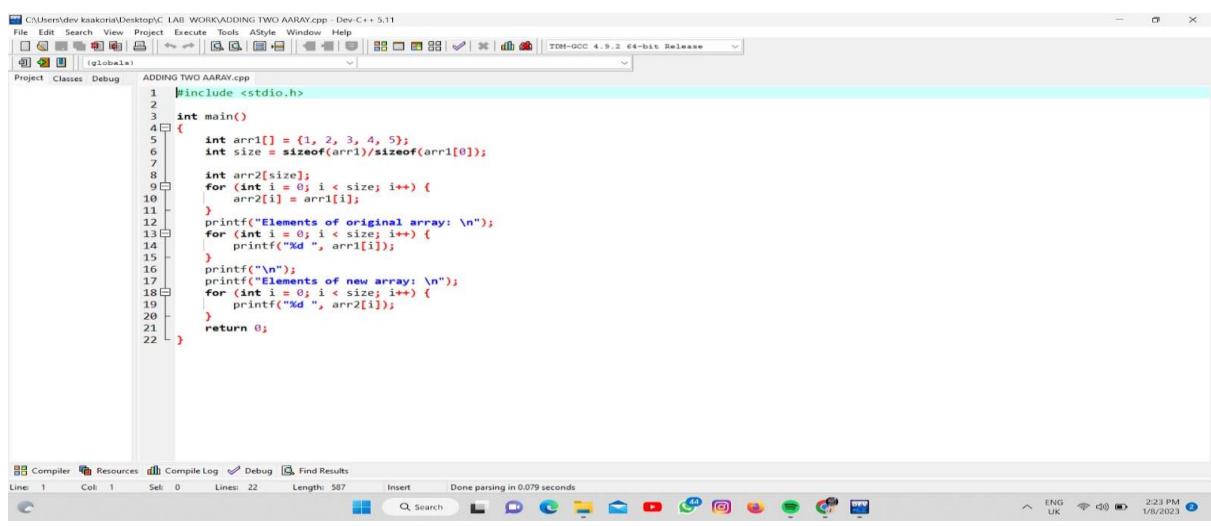
**ROLL NO - 2215001814**

**GURPREET MAM**

# C-PROGRAMS WITH ITS OUTPUT'S

## QUESTION - 1 ;

C program to copy one array to  
another a



The screenshot shows the Dev-C++ IDE interface with the following details:

- Title Bar:** C:\Users\devi\OneDrive\Desktop\VC LAB\WORK\ADDING TWO AARRAY.cpp - Dev-C++ 5.11
- Menu Bar:** File, Edit, Search, View, Project, Execute, Tools, Style, Window, Help
- Toolbar:** Standard Dev-C++ toolbar.
- Code Editor:** Displays the C code for copying an array.

```
1 #include <stdio.h>
2
3 int main()
4 {
5     int arr1[] = {1, 2, 3, 4, 5};
6     int size = sizeof(arr1)/sizeof(arr1[0]);
7
8     int arr2[size];
9     for (int i = 0; i < size; i++) {
10        arr2[i] = arr1[i];
11    }
12    printf("Elements of original array: \n");
13    for (int i = 0; i < size; i++) {
14        printf("%d ", arr1[i]);
15    }
16    printf("\n");
17    printf("Elements of new array: \n");
18    for (int i = 0; i < size; i++) {
19        printf("%d ", arr2[i]);
20    }
21 }
22 }
```
- Status Bar:** Line: 1 Col: 1 Sel: 0 Lines: 22 Length: 587 Insert Done parsing in 0.079 seconds
- System Tray:** Shows icons for ENG UK, battery level, and date/time (2:23 PM 1/6/2023).

A screenshot of the Dev-C++ IDE interface. The main window shows a terminal-like output window with the following text:

```
1 Elements of original array:  
2 1 2 3 4 5  
3 Elements of new array:  
4 1 2 3 4 5  
5 -----  
6 Process exited after 0.06512 seconds with return value 0  
7 Press any key to continue . . .
```

The status bar at the bottom indicates "Done parsing in 0.078 seconds". The taskbar at the bottom right shows various application icons.

## QUESTION -2 ;

C program to add two number using  
pointers.

A screenshot of the Dev-C++ IDE interface. The main window displays the following C code:

```
1 #include <stdio.h>  
2 int main()  
3 {  
4     int A,B,*a,*b,s;  
5     printf("Enter two integers to add\n");  
6     scanf("%d%d", &A, &B);  
7     a = &A;  
8     b = &B;  
9     s = *a + *b;  
10    printf("Sum of the numbers %d\n", s);  
11}  
12  
13
```

The status bar at the bottom indicates "Done parsing in 0.016 seconds". The taskbar at the bottom right shows various application icons.

The screenshot shows a Dev-C++ IDE window. The title bar reads "C:\Users\dev kaakoria\Desktop\CLAB WORK\ADDITION USING POINTERS.cpp - [Executing] - Dev-C++ 5.11". The main window displays the following text:  
Project Enter two integers to add  
5  
4  
Sum of the numbers 9  
-----  
Process exited after 3.151 seconds with return value 0  
Press any key to continue . . .

The status bar at the bottom shows: Line: 1 Col: 1 Sel: 0 Lines: 13 Length: 213 Insert Done parsing in 0.016 seconds. The system tray indicates the date and time as 2:24 PM 1/8/2023.

## QUESTION - 3

C program to find all angles of a triangle

The screenshot shows a Dev-C++ IDE window. The title bar reads "C:\Users\dev kaakoria\Desktop\CLAB WORK\ALL ANGLES OF TRIANGLE.cpp - Dev-C++ 5.11". The main window displays the following C code:

```
#include <stdio.h>
int main()
{
    int ang1, ang2, ang3;
    printf("Input two angles of triangle separated by comma : ");
    scanf("%d,%d", &ang1, &ang2);
    ang3 = 180 - (ang1 + ang2);
    printf("first angle of the triangle : %d\n", ang1);
    printf("second angle of the triangle : %d\n", ang2);
    printf("Third angle of the triangle : %d\n", ang3);
}
```

The status bar at the bottom shows: Line: 1 Col: 1 Sel: 0 Lines: 13 Length: 400 Insert Done parsing in 0.078 seconds. The system tray indicates the date and time as 2:24 PM 1/8/2023.

```
C:\Users\dev kaakoria\Desktop\CLAB\WORK\ALL ANGLES OF TRIANGLE.cpp - [Executing] - Dev-C++ 5.11
File C:\Users\dev kaakoria\Desktop +
Input two angles of triangle separated by comma : 5,6,4
The first angle of the triangle : 5
The second angle of the triangle : 6
The third angle of the triangle : 169

Process exited after 7.094 seconds with return value 0
Press any key to continue . . .
```

The screenshot shows a Dev-C++ terminal window with the title "C:\Users\dev kaakoria\Desktop\CLAB\WORK\ALL ANGLES OF TRIANGLE.cpp - [Executing] - Dev-C++ 5.11". It displays the output of a C program that prompts for three angles separated by commas and prints them back. The terminal window has a black background and white text. Below the terminal is the Dev-C++ IDE interface, showing the file path "C:\Users\dev kaakoria\Desktop\CLAB\WORK\ALL ANGLES OF TRIANGLE.cpp" and various toolbars and status bars.

## QUESTION - 4;

## C program to check alphabet, digit

```
#include <stdio.h>
int main()
{
    char ch;
    printf("Enter any character: ");
    scanf("%c", &ch);
    if((ch >= 'a' && ch <= 'z') || (ch >= 'A' && ch <= 'Z'))
    {
        printf("\'%c\' is alphabet.", ch);
    }
    else if(ch >= '0' && ch <= '9')
    {
        printf("\'%c\' is digit.", ch);
    }
    else
    {
        printf("\'%c\' is special character.", ch);
    }
    return 0;
}
```

The screenshot shows the Dev-C++ IDE with the title "C:\Users\dev kaakoria\Desktop\CLAB\WORK\ALPHABET USING CONDITIONAL OPERATOR.cpp - [Executing] - Dev-C++ 5.11". The code editor displays a C program that takes a character input and checks if it is an alphabet, digit, or special character using conditional operators. The code uses standard input/output functions and conditional statements. Below the code editor is the Dev-C++ interface with various toolbars and status bars.

```
#include <stdio.h>
Enter any character: A
'A' is alphabet.
Process exited after 2.751 seconds with return value 0
Press any key to continue . . .
```

## QUESTION - 5 ;

. C program to find area of a triangle

```
#include <stdio.h>
int main() {
    int b, h, a;
    printf("Enter the base & height of the triangle::\n");
    scanf("%d%d", &b, &h);
    a = ((b * h) / 2);
    printf("\nArea of the triangle = %d sq. units", a);
}
```

The screenshot shows the Dev-C++ IDE interface. The project name is "ALPHABET USING CONDITIONAL OPERATOR.cpp". The code in the editor is:

```
1 #include <stdio.h>
2
3 int main()
4 {
5     int base, height;
6
7     printf("Enter the base & height of the triangle::");
8     scanf("%d %d", &base, &height);
9
10    if (base > height)
11        printf("Area of the triangle = %d sq. units", base * height / 2);
12    else
13        printf("Area of the triangle = %d sq. units", height * base / 2);
14
15    return 0;
16}
```

The terminal window shows the output of the program:

```
Enter the base & height of the triangle::  
5  
6  
Area of the triangle = 15 sq. units
```

## QUESTION -6;

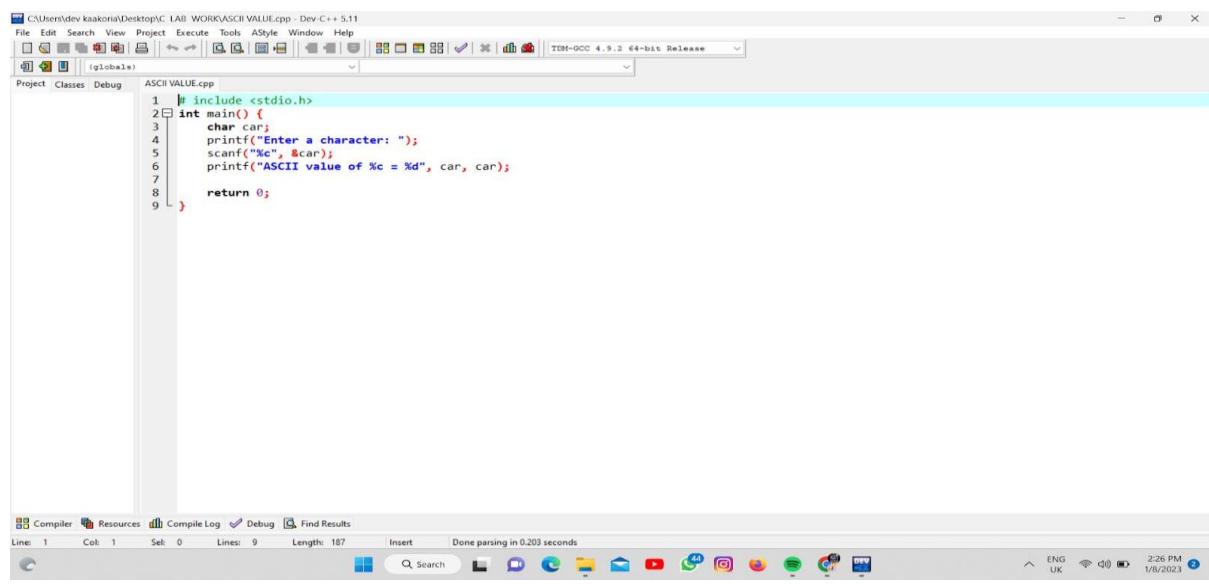
C program to perform all arithmetic  
o

The screenshot shows a C IDE interface with the file "C ARITHMETIC OPERATION'S.c" open. The code in the editor is:

```
1 // C ARITHMETIC OPERATION'S.c
2
3 #include <stdio.h>
4
5 int main()
6 {
7     int p, q;
8     int sum, sub, mul, mod;
9     float div;
10
11    printf("Enter any two positive integer numbers:\n");
12    scanf("%d %d", &p, &q);
13
14    sum = p + q;
15    sub = p - q;
16    mul = p * q;
17    div = (float)p / q;
18    mod = p % q;
19
20    printf("\n");
21    printf("Addition of      %d + %d = %d\n", p, q, sum);
22    printf("Subtraction of   %d - %d = %d\n", p, q, sub);
23    printf("Multiplication of %d * %d = %d\n", p, q, mul);
24    printf("Division of      %d / %d = %f\n", p, q, div);
25    printf("Modulus of        %d %% %d = %d\n", p, q, mod);
26}
```

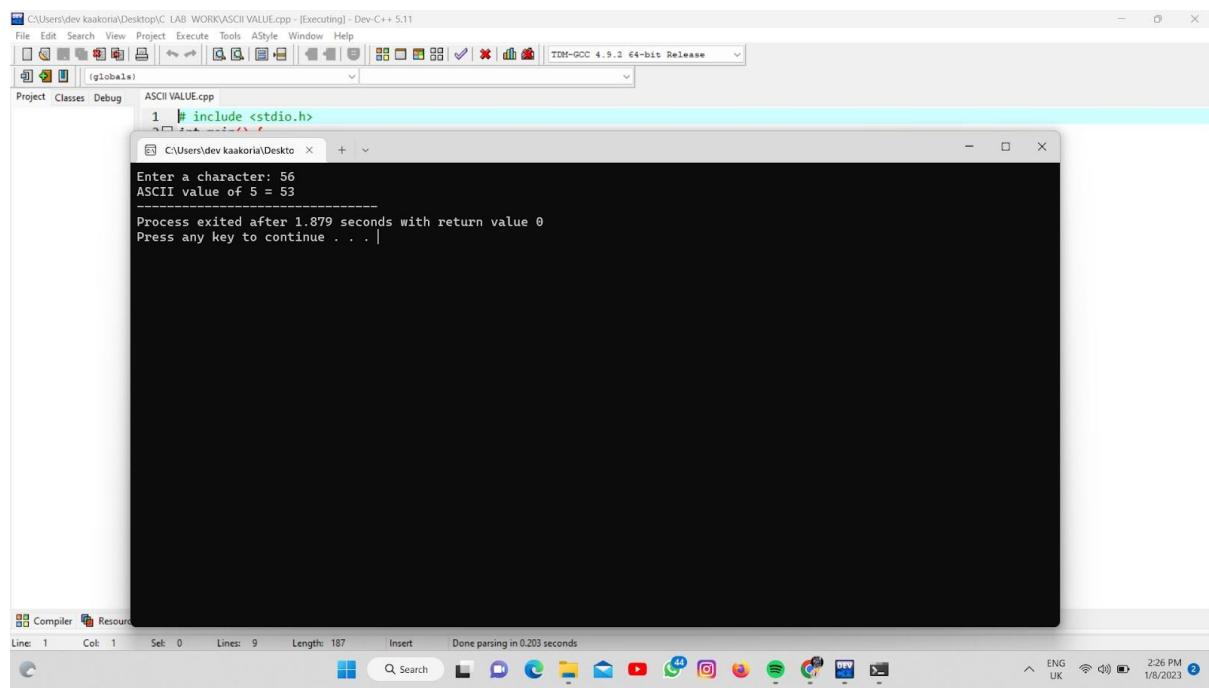
# QUESTION -7;

## C program to print ASCII values of all characters



The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\C LAB WORK\ASCII VALUE.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, Style, Window, and Help. The toolbar contains icons for New, Open, Save, Print, Run, Stop, and Exit. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 9 Length: 187 Insert Done parsing in 0.203 seconds". The code editor window displays the following C code:

```
#include <stdio.h>
int main()
{
    char car;
    printf("Enter a character: ");
    scanf("%c", &car);
    printf("ASCII value of %c = %d", car, car);
    return 0;
}
```



The screenshot shows the Dev-C++ IDE interface during execution. The title bar reads "C:\Users\dev kaakoria\Desktop\C LAB WORK\ASCII VALUE.cpp - [Executing] - Dev-C++ 5.11". The code editor window is visible at the top. A terminal window below it shows the output of the program:

```
Enter a character: 56
ASCII value of 56 = 53
-----
Process exited after 1.879 seconds with return value 0
Press any key to continue . . . |
```

The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 9 Length: 187 Insert Done parsing in 0.203 seconds". The taskbar at the very bottom of the screen shows various application icons.



# QUESTION - 8;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\C LAB WORK\C program to count total number of duplicate elements in an.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, Style, Window, and Help. The toolbar has icons for New, Open, Save, Print, Cut, Copy, Paste, Find, Replace, Undo, Redo, and others. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 29 Length: 589 Insert Done parsing in 0.016 seconds" and "ENG UK 2:27 PM 1/8/2023".

```
1 #include <stdio.h>
2
3 #define MAX_SIZE 100 // Maximum array size
4
5 int main()
6 {
7     int i, j, n, count = 0;
8     printf("Enter size of the array : ");
9     scanf("%d", &n);
10    int a[n];
11    printf("Enter elements in array : ");
12    for(i=0; i<n; i++)
13    {
14        scanf("%d", &a[i]);
15    }
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                count++;
23                break;
24            }
25        }
26    }
27    printf("\nTotal number of duplicate elements found in array = %d", count);
28 }
29
```

# QUESTION - 9;

The screenshot shows a Windows desktop environment with a Dev-C++ IDE window open. The title bar of the window reads "C:\Users\dev kaakoria\Desktop\LAB WORK\C program to count total number of duplicate elements in an.cpp - [Executing] - Dev-C++ 5.11". The main window displays the following terminal output:

```
File C:\Users\dev kaakoria\Desktop\...
Enter size of the array : 5
Enter elements in array : 6
6
4
6
6

Total number of duplicate elements found in array = 3
Process exited after 5.259 seconds with return value 0
Press any key to continue . . . |
```

Below the terminal window, the code editor shows the following C code:

```
28     printf("\nTotal number of duplicate elements found in array = %d", count);
29 }
```

The status bar at the bottom of the IDE provides information about the current file: Line: 22, Col: 14, Sel: 0, Lines: 29, Length: 589, Insert, Done parsing in 0.016 seconds. It also shows the system tray with icons for search, taskbar, and system status.

# QUESTION - 10;

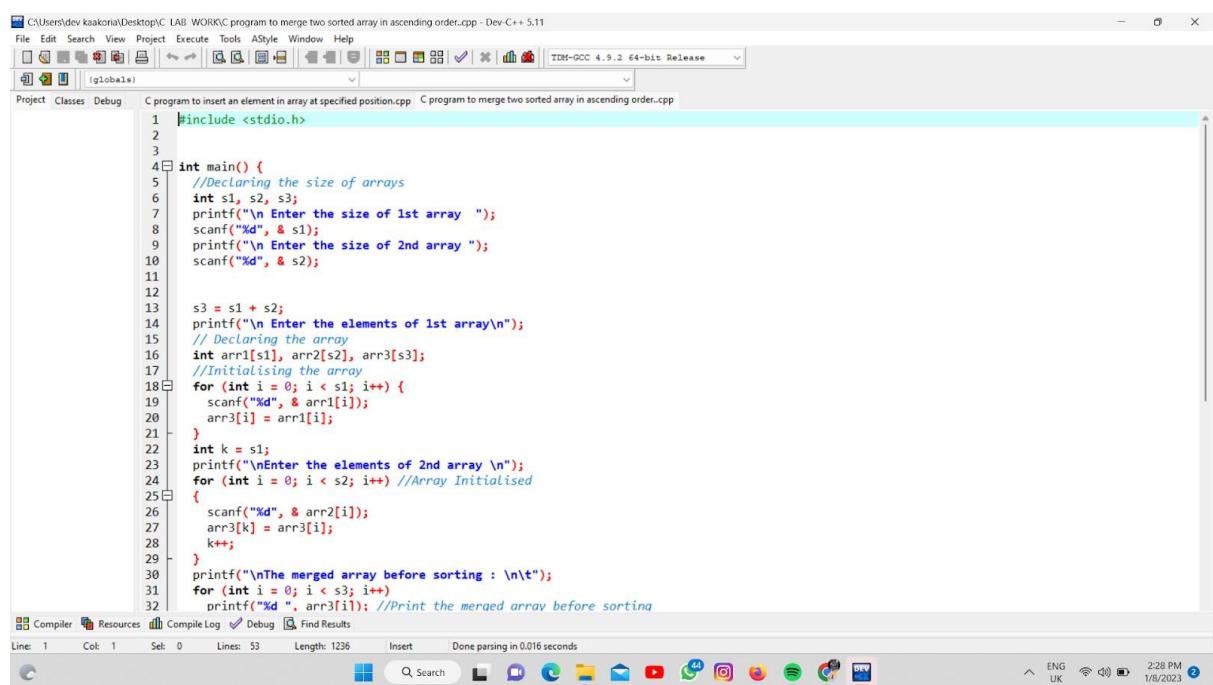
The screenshot shows the Dev-C++ IDE interface. The code editor window displays a C program named "C program to insert an element in array at specified position.cpp". The code prompts the user for the number of elements, the array elements, the insertion position, and the element to insert. It then iterates through the array, checks if the current index is the insertion position, and performs the insertion. Finally, it prints the modified array. The status bar at the bottom indicates the code has been parsed successfully.

```
#include <stdio.h>
int main()
{
    int i, n, ele, pos ;
    printf(" Enter the Numbers of elements: ");
    scanf("%d",&n);
    int arr[n];
    printf("\n Enter the elements of array : \n");
    for ( i = 1 ; i <= n ; i++)
        scanf("%d",&arr[i]);
    printf("\n Array enter by user are :\n");
    for ( i = 1 ; i <= n ; i++)
        printf("%d\t",arr[i]);
    printf("\n Enter the position you want to enter : ");
    scanf("%d",&pos);
    printf("\n Enter the element you want to enter : ");
    scanf("%d",&ele);
    for ( i = 1 ; i <= n ; i++)
    {
        if ( i > pos )
            arr[i] = arr[i-1];
        else
        {
            if ( i == pos )
                arr[i] = ele;
            else
                arr[i] = arr[i];
        }
    }
    printf("\n Array After Inserting element :\n");
}
```

The screenshot shows the Dev-C++ IDE interface during execution. The code editor window displays the same C program. The terminal window shows the execution process. The user enters the number of elements as 2, followed by the array elements 5 and 6. Then, the user enters the insertion position as 1 and the element to insert as 5. The program outputs the modified array [5, 6]. The status bar at the bottom indicates the program is executing.

```
#include <stdio.h>
C:\Users\dev kaakoria\Desktop> C:\LAB\WORK\c program to insert an element in array at specified position.cpp - [Executing] - Dev-C++ 5.11
Enter the Numbers of elements: 2
5
6
Array enter by user are :
5 5
Enter the position you want to enter :
```

# QUESTION - 11;

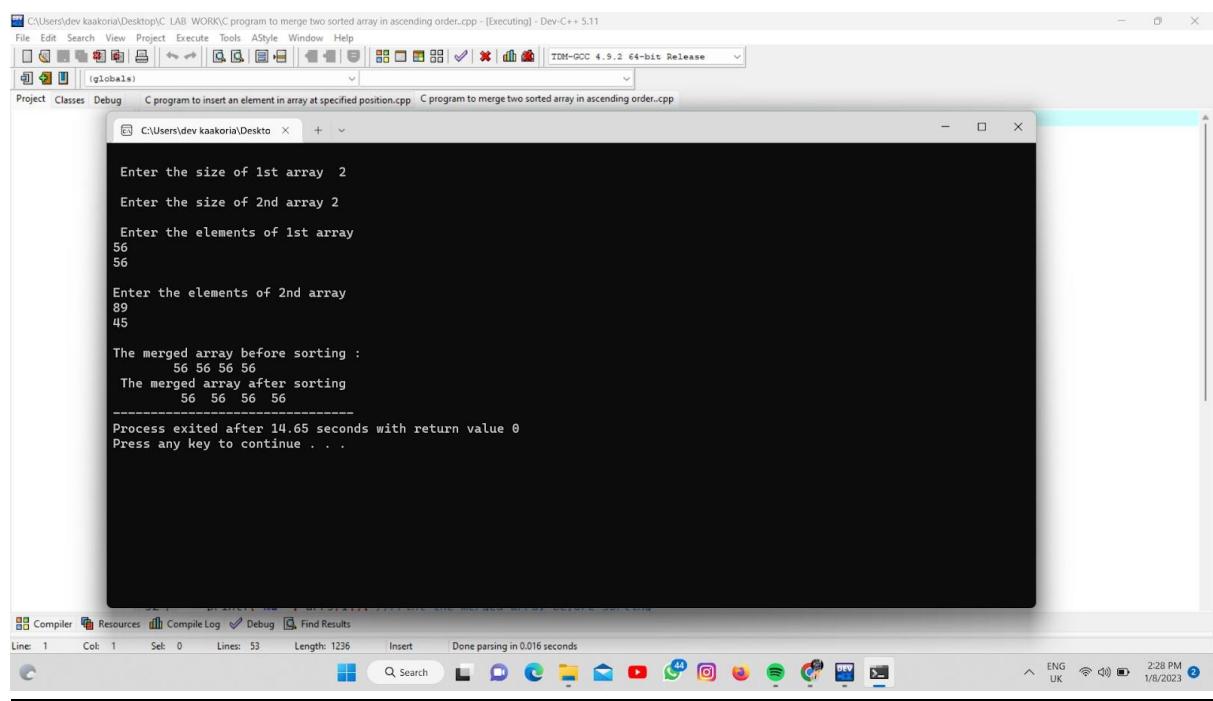


The screenshot shows the Dev-C++ IDE interface with the following details:

- Title Bar:** C:\Users\dev kaakoria\Desktop\C LAB WORK\C program to merge two sorted array in ascending order.cpp - Dev-C++ 5.11
- Menu Bar:** File, Edit, Search, View, Project, Execute, Tools, Style, Window, Help
- Toolbar:** Standard Dev-C++ toolbar with icons for file operations, project management, and compilation.
- Project Explorer:** Shows a single project named "C program to insert an element in array at specified position.cpp".
- Code Editor:** Displays the C code for merging two sorted arrays. The code includes declarations for arrays arr1, arr2, and arr3, and loops for inputting elements and printing the merged array.
- Status Bar:** Shows the current line (Line: 1), column (Col: 1), selected text (Sel: 0), lines (Lines: 53), length (Length: 1236), and the time (Done parsing in 0.016 seconds).
- System Tray:** Shows icons for battery, signal strength, and date/time (1/8/2023, 2:28 PM).

```
1 #include <stdio.h>
2
3
4 int main() {
5     //Declaring the size of arrays
6     int s1, s2, s3;
7     printf("\nEnter the size of 1st array ");
8     scanf("%d", &s1);
9     printf("\nEnter the size of 2nd array ");
10    scanf("%d", &s2);
11
12
13    s3 = s1 + s2;
14    printf("\nEnter the elements of 1st array\n");
15    // Declaring the array
16    int arr1[s1], arr2[s2], arr3[s3];
17    //Initialising the array
18    for (int i = 0; i < s1; i++) {
19        scanf("%d", &arr1[i]);
20        arr3[i] = arr1[i];
21    }
22    int k = s1;
23    printf("\nEnter the elements of 2nd array \n");
24    for (int i = 0; i < s2; i++) //Array Initialised
25    {
26        scanf("%d", &arr2[i]);
27        arr3[k] = arr2[i];
28        k++;
29    }
30    printf("\nThe merged array before sorting : \n\t");
31    for (int i = 0; i < s3; i++)
32        printf("%d ", arr3[i]); //Print the meraed array before sorting
```

# QUESTION - 12;



The screenshot shows the Dev-C++ IDE interface. At the top, there's a menu bar with File, Edit, Search, View, Project, Execute, Tools, ASyntax, Window, and Help. Below the menu is a toolbar with various icons. The main window has tabs for "Project", "Classes", "Debug", and two open files: "C program to insert an element in array at specified position.cpp" and "C program to merge two sorted array in ascending order.cpp". The "C program to merge two sorted array in ascending order.cpp" tab is active, showing a terminal window with the following output:

```
Enter the size of 1st array 2
Enter the size of 2nd array 2
Enter the elements of 1st array
56
56

Enter the elements of 2nd array
89
45

The merged array before sorting :
56 56 56 56
The merged array after sorting
56 56 56 56
Process exited after 14.65 seconds with return value 0
Press any key to continue . . .
```

The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 53 Length: 1236 Insert Done parsing in 0.016 seconds". The taskbar at the very bottom includes icons for File Explorer, Task View, Start, Search, Taskbar settings, and several pinned applications like Microsoft Edge, File Explorer, and File History.

# QUESTION - 13;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\C LAB WORK\ C program to perform scalar matrix multiplication.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, Help. The toolbar has icons for New, Open, Save, Build, Run, etc. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 34 Length: 709 Insert Done parsing in 0.079 seconds". The code editor contains the following C code:

```
1 #include <stdio.h>
2 int main()
3 {
4     int num,i,j,n;
5     printf("Enter the size of matrix");
6     scanf("%d",&n);
7     printf("Enter elements in matrix of size %d \n",n);
8     int arr[n][n];
9     for(i=0;i<n;i++)
10    {
11        for(j=0;j<n;j++)
12        {
13            scanf("%d", &arr[i][j]);
14        }
15    }
16    printf("Enter any number to multiply with matrix A: ");
17    scanf("%d", &num);
18    for(i=0;i<n;i++)
19    {
20        for(j=0;j<n;j++)
21        {
22            arr[i][j] = num*arr[i][j];
23        }
24    }
25    printf("\nResultant matrix= \n");
26    for(i=0; i<n;i++)
27    {
28        for(j=0; j<n; j++)
29        {
30            printf("%d ", arr[i][j]);
31        }
32        printf("\n");
33    }
34 }
```

The status bar at the bottom right shows "2:28 PM 1/8/2023".

The screenshot shows a terminal window titled "C:\Users\dev kaakoria\Desktop\C LAB WORK\ C program to perform scalar matrix multiplication.cpp - [Executing] - Dev-C++ 5.11". The terminal output is as follows:

```
Enter the size of matrix2
Enter elements in matrix of size 2
2
6
4
6
Enter any number to multiply with matrix A: 2
Resultant matrix=
4 12
8 12

Process exited after 7.373 seconds with return value 0
Press any key to continue . . .
```

The status bar at the bottom right shows "2:29 PM 1/8/2023".

# QUESTION -14;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\CLAB WORK\CALULATOR.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar has icons for New, Open, Save, Build, Run, and Exit. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 30 Length: 679 Insert Done parsing in 0.094 seconds". The code editor window displays the following C++ code:

```
1 #include <stdio.h>
2
3 int main() {
4     char op;
5     int first, second;
6     printf("Enter an operator (+, -, *, /): ");
7     scanf("%c", &op);
8     printf("Enter two operands: ");
9     scanf("%d %d", &first, &second);
10
11    switch (op) {
12        case '+':
13            printf("%d + %d = %d", first, second, first + second);
14            break;
15        case '-':
16            printf("%d - %d = %d", first, second, first - second);
17            break;
18        case '*':
19            printf("%d * %d = %d", first, second, first * second);
20            break;
21        case '/':
22            printf("%d / %d = %d", first, second, first / second);
23            break;
24        default:
25            default:
26                printf("Error! operator is not correct");
27            }
28
29    return 0;
30 }
```

The screenshot shows the terminal window of the Dev-C++ IDE. The title bar reads "C:\Users\dev kaakoria\Desktop\CLAB WORK\CALULATOR.cpp - [Executing] - Dev-C++ 5.11". The terminal window displays the following output:

```
Enter an operator (+, -, *, /): +
Enter two operands: 5
6
5 + 6 = 11
-----
Process exited after 4.416 seconds with return value 0
Press any key to continue . . .
```

# QUESTION - 13;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\LAB WORK\ CIRCLE USING FUNCTIONS.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar contains icons for New, Open, Save, Print, Build, Run, and Stop. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 29 Length: 685 Insert Done parsing in 0.015 seconds". The main window displays the source code for "CALCULATOR.cpp" which calculates the diameter, circumference, and area of a circle based on user input for the radius.

```
1 #include <stdio.h>
2 int Diameter(int radius);
3 int Circumference(int radius);
4 int Area(int radius);
5 int main()
6 {
7     int radius, dia, circ, area;
8     printf("Enter radius of circle: ");
9     scanf("%d", &radius);
10    dia =Diameter(radius);
11    circ =Circumference(radius);
12    area =Area(radius);
13
14    printf("Diameter of the circle = %d units\n", dia);
15    printf("Circumference of the circle = %d units\n", circ);
16    printf("Area of the circle = %d units", area);
17 }
18 int Diameter(int radius)
19 {
20     return (2 * radius);
21 }
22 int Circumference(int radius)
23 {
24     return (2 *3.14* radius);
25 }
26 int Area(int radius)
27 {
28     return (3.14* radius * radius);
29 }
```

The screenshot shows the Dev-C++ IDE interface with the terminal window open. The title bar reads "C:\Users\dev kaakoria\Desktop\LAB WORK\ CIRCLE USING FUNCTIONS.cpp - [Executing] - Dev-C++ 5.11". The terminal window displays the program's output: "Enter radius of circle: 5", followed by the calculated values "Diameter of the circle = 10 units", "Circumference of the circle = 31 units", and "Area of the circle = 78 units". The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 29 Length: 685 Insert Done parsing in 0.015 seconds".

```
Enter radius of circle: 5
Diameter of the circle = 10 units
Circumference of the circle = 31 units
Area of the circle = 78 units
```

# QUESTION -16;

The screenshot shows the Dev-C++ IDE interface. The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar contains icons for opening files, saving, printing, and executing. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 16 Length: 341 Insert Done parsing in 0.078 seconds". The code editor window displays the following C program:

```
1 #include <stdio.h>
2 int main()
3 {
4     int days, years, weeks;
5
6     printf("enter the number of days");
7     scanf("%d", &days);
8     years = days/365;
9     weeks = (days % 365)/7;
10    days = days- ((years*365) + (weeks*7));
11
12    printf("Years: %d\n", years);
13    printf("Weeks: %d\n", weeks);
14    printf("Days: %d \n", days);
15 }
16
```

The taskbar at the bottom of the screen shows various application icons.

The screenshot shows a terminal window titled "C:\Users\dev kaakoria\Desktop\LAB WORK\conversion of days to year.cpp - [Executing] - Dev-C++ 5.11". The command prompt "C:\Users\dev kaakoria\Desktop>" is visible. The terminal displays the following output:

```
enter the number of days1562
Years: 4
Weeks: 14
Days: 4

-----
Process exited after 2.714 seconds with return value 0
Press any key to continue . . . |
```

The taskbar at the bottom of the screen shows various application icons.

# QUESTION -17;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\CC LAB WORK\COUNT THE FREQUENCY OF DIGITS.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar contains icons for New, Open, Save, Print, Run, Stop, and Exit. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 33 Length: 426 Insert Done parsing in 0.015 seconds". The code editor displays the following C program:

```
1 #include <stdio.h>
2
3 int main()
4 {
5     int num;
6
7     int digit,rem,count=0;
8
9     printf("Enter the Number:");
10    scanf("%d",&num);
11
12    printf("Enter the digit to be counted:");
13
14    scanf("%d",&digit);
15
16    while(num!=0)
17    {
18
19        rem=num%10;
20
21        if(rem==digit)
22
23            count++;
24
25        num=num/10;
26
27    }
28
29    printf("The digit %d present %d times ",digit,count);
30
31
32 }
```

The status bar also shows "63°F Fog" and system icons for battery, signal, and time "2:30 PM 1/8/2023".

The screenshot shows a terminal window titled "C:\Users\dev kaakoria\Desktop\CC LAB WORK\COUNT THE FREQUENCY OF DIGITS.cpp - [Executing] - Dev-C++ 5.11". The terminal output is as follows:

```
Enter the Number:56
Enter the digit to be counted:5
The digit 5 present 1 times

Process exited after 3.007 seconds with return value 0
Press any key to continue . . .
```

The terminal window has a black background. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 33 Length: 426 Insert Done parsing in 0.015 seconds". The status bar also shows "63°F Fog" and system icons for battery, signal, and time "2:30 PM 1/8/2023".

# QUESTION -18;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\CLAB WORK\ELECTRICITY BILL.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar contains icons for New, Open, Save, Print, Build, Run, and Stop. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 35 Length: 584 Insert Done parsing in 0.078 seconds". The code editor window displays the following C++ code:

```
1 #include <stdio.h>
2
3 int main()
4 {
5     int unit;
6     int amt, totalamt, surcharge;
7
8     printf("Enter total units consumed: ");
9     scanf("%d", &unit);
10
11
12     if(unit <= 50)
13     {
14         amt = unit * 10;
15     }
16     else if(unit <= 150)
17     {
18         amt = 25 + ((unit-50) * 75);
19     }
20     else if(unit <= 250)
21     {
22         amt = 100 + ((unit-150) * 120);
23     }
24     else
25     {
26         amt = 220 + ((unit-250) * 150);
27     }
28
29     surcharge = amt * 20;
30     totalamt = amt + surcharge;
31
32     printf("Electricity Bill = Rs. %d", totalamt);
```

The status bar at the bottom right shows "63°F Fog 2:30 PM 1/8/2023".

The screenshot shows the Dev-C++ IDE interface during execution. The title bar reads "C:\Users\dev kaakoria\Desktop\CLAB WORK\ELECTRICITY BILL.cpp - [Executing] - Dev-C++ 5.11". The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 35 Length: 584 Insert Done parsing in 0.078 seconds". The code editor window is visible, and a separate terminal window shows the output of the program:

```
C:\Users\dev kaakoria\Desktop> Electricity Bill = Rs. 1050
Process exited after 1.44 seconds with return value 0
Press any key to continue . . .
```

The status bar at the bottom right shows "63°F Fog 2:31 PM 1/8/2023".

# QUESTION -19;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\NC LAB WORK\factorial.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, Style, Window, and Help. The toolbar has icons for New, Open, Save, Print, Run, Stop, and Exit. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 13 Length: 207 Insert Done parsing in 0.016 seconds". The code editor contains the following C program:

```
#include<stdio.h>
int main(){
    int i,f=1,num;
    printf("Enter a number: ");
    scanf("%d",&num);
    for(i=1;i<=num;i++)
        f=f*i;
    printf("Factorial of %d is: %d",num,f);
    return 0;
}
```

The code is highlighted in blue and black, indicating syntax. The status bar also displays system information like weather (63°F Fog), language (ENG UK), and date/time (2:31 PM 1/8/2023).

# QUESTION - 18;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\CLAB\WORK\FIBONACCI SERIES.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar contains various icons for file operations like Open, Save, Print, and Build. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 25 Length: 352 Insert Done parsing in 0.078 seconds". The code editor window displays the following C++ code:

```
1 #include <stdio.h>
2
3 int main()
4 {
5     int a, b, c, i, n;
6
7     printf("Enter number of terms: ");
8     scanf("%d", &n);
9
10    a = 0;
11    b = 1;
12    c = 0;
13
14    printf("Fibonacci terms: \n");
15    for(i=1; i<=n; i++)
16    {
17        printf("%d, ", c);
18
19        a = b;
20        b = c;
21        c = a + b;
22    }
23
24    return 0;
25 }
```

The status bar at the bottom right shows the system tray with icons for battery, signal, and date/time.

The screenshot shows the Dev-C++ IDE interface during execution. The title bar reads "C:\Users\dev kaakoria\Desktop\CLAB\WORK\FIBONACCI SERIES.cpp - [Executing] - Dev-C++ 5.11". The code editor window is visible at the top. The terminal window below shows the output of the program:

```
Enter number of terms: 5
Fibonacci terms:
0, 1, 1, 2, 3,
```

The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 25 Length: 352 Insert Done parsing in 0.078 seconds". The status bar at the bottom right shows the system tray with icons for battery, signal, and date/time.

# QUESTION -21;

The screenshot shows the Dev-C++ IDE interface. The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar has icons for New, Open, Save, Print, Run, Stop, and Build. The status bar at the bottom shows Line: 1 Col: 1 Sel: 0 Lines: 49 Length: 1008 Insert Done parsing in 0.016 seconds. The bottom right corner shows the system tray with a weather icon (63°F), Fog, ENG UK, 2:31 PM, and 1/8/2023.

```
1 #include <stdio.h>
2 int main()
3 {
4     int n;
5     printf("Enter the size of the array");
6     scanf("%d", &n);
7     int arr[n][n];
8     int i,j,identity;
9     printf("Enter elements in matrix of size %d*%d\n", n, n);
10    for(i=0;i<n;i++)
11    {
12        for(j=0;j<n;j++)
13        {
14            scanf("%d", &arr[i][j]);
15        }
16    }
17    identity= 1;
18    for(i=0;i<n;i++)
19    {
20        for(j=0;j<n;j++)
21        {
22            if(i==j && arr[i][j]!=1)
23            {
24                identity= 0;
25            }
26            else if(i!=j && arr[i][j]!=0)
27            {
28
29            identity = 0;
30        }
31    }
32 }
```

The screenshot shows the Dev-C++ IDE interface during execution. The status bar at the bottom shows C:\Users\dev kaakoria\Desktop\WORK\IDENTITY MATRIX.cpp - [Executing] - Dev-C++ 5.11. The bottom right corner shows the system tray with a weather icon (63°F), Fog, ENG UK, 2:32 PM, and 1/8/2023.

```
1 enetr the size of the array
2 Enter elements in matrix of size 2*2
3
4
5
6
7 The given matrix is not Identity Matrix
8 -----
9 Process exited after 4.689 seconds with return value 0
10 Press any key to continue . . .
```

A WhatsApp notification bubble is visible in the bottom right corner, showing a message from "B block hostel hero's" with the text "ASHOK PANCHAL: रामी लोग समय पर घुमें।".

# QUESTION -22;

The screenshot shows the Dev-C++ IDE interface. The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar includes icons for New, Open, Save, Build, Run, Stop, and Exit. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 24 Length: 408 Insert Done parsing in 0.094 seconds". The system tray indicates it's 63°F, Foggy, ENG UK, 2:32 PM, and 1/8/2023.

```
1 #include <stdio.h>
2 int main() {
3     int a, b, x, y, t, gcd, lcm;
4     printf("Enter two integers\n");
5     scanf("%d%d", &x, &y);
6
7     a = x;
8     b = y;
9
10    while (b != 0) {
11        t = b;
12        b = a % b;
13        a = t;
14    }
15
16    gcd = a;
17    lcm = (x*y)/gcd;
18
19    printf("Greatest common divisor of %d and %d = %d\n", x, y, gcd);
20    printf("Least common multiple of %d and %d = %d\n", x, y, lcm);
21
22    return 0;
23 }
```

The screenshot shows a terminal window titled "C:\Users\dev kaakoria\Desktop\LCM , HCF.cpp - [Executing] - Dev-C++ 5.11". The window displays the output of the program:

```
Enter two integers
5
6
Greatest common divisor of 5 and 6 = 1
Least common multiple of 5 and 6 = 30

Process exited after 1.887 seconds with return value 0
Press any key to continue . . .
```

The terminal window has a title bar, a menu bar, and a status bar at the bottom. The status bar shows "Line: 1 Col: 1 Sel: 0 Lines: 24 Length: 408 Insert Done parsing in 0.094 seconds". The system tray at the bottom right shows it's 63°F, Foggy, ENG UK, 2:32 PM, and 1/8/2023.

# QUESTION -23;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\CL LAB\WORK\LINEAR SEARCH.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar has icons for New, Open, Save, Print, Build, Run, Stop, and Exit. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 23 Length: 616 Insert Done parsing in 0 seconds". The code editor displays the following C code for linear search:

```
1 #include <stdio.h>
2 int main()
3 {
4     int search, c, n;
5     printf("Enter the number of elements in array\n");
6     scanf("%d", &n);
7     int array[n];
8     for (c = 0; c < n; c++)
9         scanf("%d", &array[c]);
10    printf("Enter the number to search\n");
11    scanf("%d", &search);
12    for (c = 0; c < n; c++)
13    {
14        if (array[c] == search) /* if required element found */
15        {
16            printf("%d is present at location %d.\n", search, c+1);
17            break;
18        }
19    }
20    if (c == search)
21        printf("%d is not present in array.\n", search);
22    return 0;
23 }
```

The status bar at the bottom right shows "2:32 PM 1/8/2023".

The screenshot shows a terminal window titled "C:\Users\dev kaakoria\Desktop\CL LAB\WORK\LINEAR SEARCH.cpp - [Executing] - Dev-C++ 5.11". The terminal output is as follows:

```
Enter the number of elements in array
5
5
7
4
5
6
Enter the number to search
5
5 is present at location 4.

Process exited after 5.568 seconds with return value 0
Press any key to continue . . . |
```

The status bar at the bottom right shows "2:32 PM 1/8/2023".

# QUESTION -24;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\LAB WORK\LSB AND MSB.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar contains icons for New, Open, Save, Print, Build, Run, and Stop. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 16 Length: 257 Insert Done parsing in 0.078 seconds". The code editor displays the following C program:

```
1 #include <stdio.h>
2
3 int main()
4 {
5     int num;
6
7     printf("Enter any number: ");
8     scanf("%d", &num);
9
10    if(num & 1)
11        printf("LSB of %d is set (1).", num);
12    else
13        printf("LSB of %d is unset (0).", num);
14
15    return 0;
16 }
```

The status bar also shows system information: 63°F Fog, ENG UK, 2:33 PM, 1/8/2023.

The screenshot shows a terminal window titled "C:\Users\dev kaakoria\Desktop\LAB WORK\LSB AND MSB.cpp - [Executing] - Dev-C++ 5.11". The terminal output is as follows:

```
Enter any number: 5
LSB of 5 is set (1).
-----
Process exited after 1.398 seconds with return value 0
Press any key to continue . . . |
```

The status bar at the bottom of the terminal window shows "Done parsing in 0.078 seconds". The system status bar at the bottom of the screen shows 63°F Fog, ENG UK, 2:33 PM, 1/8/2023.

# QUESTION -25;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\LAB WORK\MARKS CALCULATION.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar has icons for New, Open, Save, Print, Run, Stop, and Exit. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 29 Length: 723 Insert Done parsing in 0.015 seconds". The code editor displays the following C++ program:

```
1 #include <stdio.h>
2
3 int main()
4 {
5     int eng, phy, chem, math, comp;
6     int total, average, per,perc;
7
8     printf("ENTER THE MARKS IN ENGLISH");
9     scanf("%d",&eng);
10    printf("ENTER THE MARKS IN PHY");
11    scanf("%d",&phy);
12    printf("ENTER THE MARKS IN CHEM");
13    scanf("%d",&chem);
14    printf("ENTER THE MARKS IN MATH");
15    scanf("%d",&math);
16    printf("ENTER THE MARKS IN COMP");
17    scanf("%d",&comp);
18
19    total = eng + phy + chem + math + comp;
20    average = total / 5;
21    per = total/500;
22    perc=per*100;
23
24    printf("Total marks = %d\n", total);
25    printf("Average marks = %d\n", average);
26    printf("Percentage = %d", perc);
27
28    return 0;
29 }
```

The status bar also shows system information: "63°F Fog", "ENG UK", "2:33 PM", and "1/8/2023".

The screenshot shows a terminal window titled "C:\Users\dev kaakoria\Desktop\LAB WORK\MARKS CALCULATION.cpp - [Executing] - Dev-C++ 5.11". The window displays the following text output:

```
ENTER THE MARKS IN ENGLISH56
ENTER THE MARKS IN PHY45
ENTER THE MARKS IN CHEM52
ENTER THE MARKS IN MATH80
ENTER THE MARKS IN COMP66
Total marks = 328
Average marks = 65
Percentage = 0
-----
Process exited after 4.744 seconds with return value 0
Press any key to continue . . .
```

The status bar at the bottom of the terminal window shows "Line: 1 Col: 1 Sel: 0 Lines: 29 Length: 723 Insert Done parsing in 0.015 seconds". The system status bar at the bottom of the screen shows "63°F Fog", "ENG UK", "2:33 PM", and "1/8/2023".

# QUESTION -26;

The screenshot shows the Dev-C++ IDE interface. The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar includes icons for New, Open, Save, Print, Build, Run, Stop, and Exit. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 14 Length: 261 Insert Done parsing in 0.078 seconds". The code editor window displays the following C++ code:

```
#include <stdio.h>
int main()
{
    int a, b, c, big ;
    printf("Enter three numbers : ");
    scanf("%d %d %d", &a, &b, &c);
    big = a > b ? (a > c ? a : c) : (b > c ? b : c);
    printf("\nThe biggest number is : %d", big);
}
```

The status bar also shows system information: 63°F Fog, ENG UK, 2:33 PM, 1/8/2023.

The screenshot shows a terminal window titled "C:\Users\dev kaakoria\Desktop\LAB\WORK\maximum using ternatomy.cpp - [Executing] - Dev-C++ 5.11". The window displays the following text:

```
Project Enter three numbers : 56
56
78
The biggest number is : 78
Process exited after 3.002 seconds with return value 0
Press any key to continue . . .
```

The status bar at the bottom of the terminal window shows "Line: 1 Col: 1 Sel: 0 Lines: 14 Length: 261 Insert Done parsing in 0.078 seconds". The status bar also shows system information: 63°F Fog, ENG UK, 2:34 PM, 1/8/2023.

# QUESTION -27;

The screenshot shows the Dev-C++ IDE interface. The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar has icons for New, Open, Save, Print, Build, Run, Stop, and Exit. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 19 Length: 325 Insert Done parsing in 0.016 seconds". The bottom taskbar includes icons for Fog, Search, File Explorer, Task View, Mail, YouTube, Spotify, Google Chrome, and File History. The date and time are 1/8/2023 2:34 PM.

```
1 #include <stdio.h>
2 #define BITS sizeof(int) * 8
3
4 int main()
5 {
6     int num, msb;
7
8     printf("Enter any number: ");
9     scanf("%d", &num);
10
11    msb = 1 << (BITS - 1);
12
13    if(num & msb)
14        printf("MSB of %d is set (1).", num);
15    else
16        printf("MSB of %d is unset (0).", num);
17
18    return 0;
19 }
```

The screenshot shows a terminal window titled "C:\Users\dev kaakoria\Desktop\LAB WORK\MSB FINDING.cpp - [Executing] - Dev-C++ 5.11". The window displays the output of the program: "Enter any number: 56", "MSB of 56 is unset (0).", and "Process exited after 1.649 seconds with return value 0". The message "Press any key to continue . . ." is also visible. The bottom taskbar and status bar are identical to the previous screenshot.

# QUESTION -28;

The screenshot shows the Dev-C++ IDE interface. The menu bar includes File, Edit, Search, View, Project, Execute, Tools, ASyntax, Window, and Help. The toolbar contains icons for opening files, saving, printing, and executing. A status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 10 Length: 197 Insert Done parsing in 0.078 seconds". The code editor displays the following C++ code:

```
1 #include <stdio.h>
2 int main() {
3     int n, i;
4     printf("Enter an integer: ");
5     scanf("%d", &n);
6     for (i = 1; i <= 10; ++i) {
7         printf("%d * %d = %d \n", n, i, n * i);
8     }
9     return 0;
10 }
```

The status bar also indicates system information: 63°F Fog, ENG UK, 2:34 PM, 1/8/2023.

The screenshot shows a terminal window titled "C:\Users\dev kaakoria\Desktop\LAB WORK\MULTIPLICATION TABLE.cpp - [Executing] - Dev-C++ 5.11". The window displays the output of the program, which asks for an integer input (56) and then prints its multiplication table from 1 to 10. The terminal window has a black background and white text. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 10 Length: 197 Insert Done parsing in 0.078 seconds". The status bar also indicates system information: 63°F Fog, ENG UK, 2:34 PM, 1/8/2023.

```
Enter an integer: 56
56 * 1 = 56
56 * 2 = 112
56 * 3 = 168
56 * 4 = 224
56 * 5 = 280
56 * 6 = 336
56 * 7 = 392
56 * 8 = 448
56 * 9 = 504
56 * 10 = 560

Process exited after 1.533 seconds with return value 0
Press any key to continue . . .
```

# QUESTION -29;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev\kaakoria\Desktop\CLAB WORK\PANINDROM OF STRING WITHOURT STRING FUNCTION.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, Help. The toolbar has icons for New, Open, Save, Run, Stop, and Exit. The status bar at the bottom shows "Line: 21 Col: 19 Sel: 0 Lines: 25 Length: 469 Insert Done parsing in 0.015 seconds". The code editor displays the following C program:

```
1 #include <stdio.h>
2 int main()
3 {
4     char str[50],length = 0;
5     int count= 1, i;
6     printf("Enter the String\n");
7     gets(str);
8     for (i = 0;str[i]!='\0'; i++)
9     {
10         length++;
11     }
12
13     for (i = 0; i < length / 2; i++)
14     {
15         if (str[i] != str[length - 1 - i])
16         {
17             count = 0;
18             break;
19         }
20     }
21     if [count == 1]
22     printf("%s is a palindrome.", str);
23     else
24     printf("%s is not a palindrome.", str);
25 }
```

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev\kaakoria\Desktop\CLAB WORK\PANINDROM OF STRING WITHOURT STRING FUNCTION.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, Help. The toolbar has icons for New, Open, Save, Run, Stop, and Exit. The status bar at the bottom shows "Line: 21 Col: 19 Sel: 0 Lines: 25 Length: 469 Insert Done parsing in 0.015 seconds". The code editor displays the same C program as the first screenshot, but with a syntax error highlighted in red on line 21: "if [count == 1]".

# QUESTION -30;

C:\Users\dev kaakoria\Desktop\CLAB WORK\PANINDROM OF STRING WITHOUT STRING FUNCTION.cpp - [Executing] - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

Project Enter the String  
naman  
naman is a palindrome.  
-----  
Process exited after 2.308 seconds with return value 0  
Press any key to continue . . . |

C:\Users\dev kaakoria\Desktop\CLAB WORK\PASCAL TRIANGLE.cpp - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

Compiler Resources Compile Log Debug Find Results

Line: 21 Col: 19 Sel: 0 Lines: 25 Length: 469 Insert Done parsing in 0.015 seconds

63°F Fog Search

Project Classes Debug PASCAL TRIANGLE.cpp

```
1 #include <stdio.h>
2 int main()
3 {
4     int rows, c = 1, d, i, j;
5     printf("Enter number of rows: ");
6     scanf("%d",&rows);
7
8     for(i=0; i<rows; i++)
9     {
10        for(d=1; d <= rows-i; d++)
11        {
12            printf(" ");
13
14            for(j=0; j <= i; j++)
15            {
16                if (j==0 || i==0)
17                {
18                    c = 1;
19                }
19                else
20                {
21                    c = c*(i-j+1)/j;
22                }
23                printf("%d", c);
24            }
25            printf("\n");
26        }
27    }
28
29    return 0;
30 }
```

Compiler Resources Compile Log Debug Find Results

Line: 1 Col: 1 Sel: 0 Lines: 27 Length: 499 Insert Done parsing in 0.094 seconds

63°F Fog Search

ENG UK 2:35 PM 1/8/2023

# QUESTION -31;

The screenshot shows a Dev-C++ IDE window. The title bar reads "C:\Users\dev kaakoria\Desktop\C LAB WORK\PASCAL TRIANGLE.cpp - [Executing] - Dev-C++ 5.11". The main window displays the output of a C++ program. The user has entered "5" as the number of rows. The program outputs the following Pascal triangle:

```
Enter number of rows: 5
1
11
121
1331
14641
-----
Process exited after 1.207 seconds with return value 0
Press any key to continue . . . |
```

Below the output, the compiler's build log shows:

```
=====
- Errors: 0
- Warnings: 0
- Executable name: C:\Users\dev kaakoria\Desktop\C LAB WORK\PASCAL TRIANGLE.exe
- Output Size: 128.7939453125 Kib
- Compilation Time: 0.47s
```

The status bar at the bottom provides system information: Line: 1, Col: 1, Sel: 0, Lines: 27, Length: 499, Insert, Done parsing in 0.094 seconds. The taskbar at the bottom right includes icons for search, file explorer, task manager, and various applications like YouTube, Instagram, and Microsoft Edge. The system tray shows the date and time as 1/8/2023 2:35 PM.

# QUESTION - 30

The screenshot shows the Dev-C++ IDE interface. The main window displays a C++ source code file named PASCAL TRIANGLE.cpp. The code checks if a given number is a perfect number by summing its divisors. A compilation results window is open below the editor, showing no errors or warnings. The system tray at the bottom indicates it's 2:35 PM on 1/8/2023.

```
#include<stdio.h>
int main()
{
    int i = 1, n, S = 0;
    printf(" Enter any number to check Perfect Number \n");
    scanf("%d", &n);

    while(i < n )
    {
        if(n % i == 0)
            S = S + i;
        i++;
    }

    if(S == n)
        printf("\n %d is Perfect Number", n);
    else
        printf("\n %d is not a Perfect Number", n);
}
```

Compiler Resources Compile Log Debug Find Results Close

Compilation results...  
-----  
- Errors: 0  
- Warnings: 0  
- Output Filename: C:\Users\dev kaakoria\Desktop\C LAB WORK\PASCAL TRIANGLE.exe  
- Output Size: 128.7939453125 Kib  
- Compilation Time: 0.47s

Line: 1 Col: 1 Sel: 0 Lines: 18 Length: 516 Insert Done parsing in 0.016 seconds

63°F Fog Search 2:35 PM 1/8/2023 ENG UK

The screenshot shows a terminal window titled "C:\Users\dev kaakoria\Desktop". It displays the output of the program when run with the input "56". The program correctly identifies that 56 is not a perfect number. The system tray at the bottom indicates it's 2:35 PM on 1/8/2023.

```
Enter any number to check Perfect Number
56
56 is not a Perfect Number
Process exited after 2.568 seconds with return value 0
Press any key to continue . . .
```

Compiler Resources Compile Log Debug Find Results Close

Compilation results...  
-----  
- Errors: 0  
- Warnings: 0  
- Output Filename: C:\Users\dev kaakoria\Desktop\C LAB WORK\PASCAL TRIANGLE.exe  
- Output Size: 128.7939453125 Kib  
- Compilation Time: 0.47s

Line: 1 Col: 1 Sel: 0 Lines: 18 Length: 516 Insert Done parsing in 0.016 seconds

63°F Fog Search 2:35 PM 1/8/2023 ENG UK

# QUESTION -33;

File Edit Search View Project Execute Tools AStyle Window Help

Project Classes Debug POINTER COPYING ARRAYS.cpp

```
1 #include <stdio.h>
2 void printArray(int arr[], int size);
3 int main()
4 {
5     int n=100;
6     int source[n], dest[n];
7     int size, i;
8     int *sourcep= source;
9     int *destp = dest;
10    int *endp;
11    printf("Enter size of array: ");
12    scanf("%d", &size);
13    printf("Enter elements in array: ");
14    for (i = 0; i < size; i++)
15    {
16        scanf("%d", (sourcep + i));
17    }
18    endp= &source[size - 1];
19    printf("\nSource array before copying: ");
20    printArray(source, size);
21    printf("\nDestination array before copying: ");
22    printArray(dest, size);
23    while(sourcep <= endp)
24    {
25        *destp = *sourcep;
26        sourcep++;
27        destp++;
28    }
29    printf("\n\nSource array after copying: ");
30    printArray(source, size);
31    printf("\nDestination array after copying: ");
32 }
```

Compiler Resources Compile Log Debug Find Results

Line: 1 Col: 1 Sel: 0 Lines: 35 Length: 867 Insert Done parsing in 0.078 seconds

63°F Fog ENG UK 2:36 PM 1/8/2023

File Edit Search View Project Execute Tools AStyle Window Help

Project Classes Debug voldy.c

```
1 #include<stdio.h>
2 int sum(int a, int b);
3
4 int main ()
5 {
6     int a,b;
7     printf("Enter the first number = a ");
8     scanf("%d",&a);
9     printf("Enter the second number = b ");
10    scanf("%d",&b);
11
12    int s = sum( a, b);
13    printf("the sum is %d",s);
14    return 0 ;
15 }
16 int sum (int a,int b){
17    return 0 ;
18 }
```

Compiler Resources Compile Log Debug Find Results Close

Compilation results...
-----
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\dev kaakoria\Desktop\C LAB WORK\voldy.exe
- Output Size: 128.619140625 KiB
- Compilation Time: 0.56s

Line: 17 Col: 10 Sel: 0 Lines: 18 Length: 300 Insert Done parsing in 0.016 seconds

57°F Fog ENG UK 10:13 PM 1/9/2023

# QUESTION -34;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\C LAB WORK\PATTERN 1.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, Style, Window, Help. The toolbar has various icons for file operations. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 17 Length: 254 Insert Done parsing in 0.328 seconds". The code editor window contains the following C code:

```
1 #include <stdio.h>
2
3 int main()
4 {
5     int i, j, n;
6     printf("Enter number of rows: ");
7     scanf("%d", &n);
8     for(i=1; i<=n; i++)
9     {
10         for(j=1; j<=i; j++)
11         {
12             printf("*");
13         }
14         printf("\n");
15     }
16 }
17
```

The status bar also displays system information: 53°F Fog, ENG UK, 9:49 PM, 1/10/2023.

The screenshot shows a terminal window titled "C:\Users\dev kaakoria\Desktop\C LAB WORK\PATTERN 1.cpp - Dev-C++ 5.11". The window displays the output of the program. It asks for the number of rows and then prints a pattern of asterisks. The output is:

```
Enter number of rows: 5
*****
*****
*****
*****
*****
```

Below the output, the terminal shows the process exit message: "Process exited after 1.304 seconds with return value 0". The status bar at the bottom of the terminal window shows "Line: 10 Col: 28 Sel: 0 Lines: 17 Length: 254 Insert Done parsing in 0.109 seconds". The taskbar at the bottom of the screen shows various application icons.

## **QUESTION -35;**

C:\Users\dev kaakorla\Desktop\CLAB WORKPATTEN 2.cpp - Dev-C++ 5.11

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 4.9.2 64-bit Release

Project Classes Debug PATTERN2.cpp

```
1 #include <stdio.h>
2
3 int main()
4 {
5     int i, j, n;
6     printf("Enter number of rows");
7     scanf("%d", &n);
8     for(i=1; i<=n; i++)
9     {
10         for(j=i; j<n; j++)
11         {
12             printf(" ");
13         }
14         for(j=1; j<=(2*i-1); j++)
15         {
16             printf("*");
17         }
18         printf("\n");
19     }
20 }
```

Compiler Resources Compile Log Debug Find Results

Line: 1 Col: 1 Sel: 0 Lines: 20 Length: 335 Insert Done parsing in 0.078 seconds

53°F Fog

Search

ENG UK

9:50 PM 1/10/2023

The screenshot shows a Dev-C++ IDE interface with a terminal window open. The terminal window displays a pattern of asterisks based on user input. The user entered '10' as the number of rows. The pattern consists of 10 lines of asterisks, where each line has one more asterisk than the previous one, starting from one asterisk in the first line.

```
1 #include <stdio.h>
C:\Users\dev kaakoria\Desktop> Enter number of rows10
*
***
*****
*****
*****
*****
*****
*****
*****
*****
-----
Process exited after 1.599 seconds with return value 0
Press any key to continue . . .
```

# QUESTION -36;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\C LAB WORK\PATTERN 3.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, Style, Window, Help. The toolbar has various icons for file operations. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 16 Length: 253 Insert Done parsing in 0.015 seconds". The code editor window contains the following C++ code:

```
1 #include <stdio.h>
2
3 int main()
4 {
5     int i, j, n;
6     printf("Enter value of n ");
7     scanf("%d", &n);
8     for(i=1; i<n; i++)
9     {
10         for(j=1; j<=i; j++)
11         {
12             printf("*");
13         }
14         printf("\n");
15     }
16 }
```

The status bar also shows system information like "53°F Fog" and a system tray with icons.

The screenshot shows the Dev-C++ IDE interface during execution. The title bar reads "C:\Users\dev kaakoria\Desktop\C LAB WORK\PATTERN 3.cpp - [Executing] - Dev-C++ 5.11". The code editor window is visible. A separate terminal window titled "C:\Users\dev kaakoria\Desktop\..." shows the output of the program:

```
Enter value of n 10
*
**
***
****
*****
*****
*****
*****
*****
*****
-----
Process exited after 1.734 seconds with return value 0
Press any key to continue . . .
```

The status bar at the bottom shows "Line: 1 Col: 1" and the system tray indicates "53°F Fog".

# QUESTION - 36;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\CLAB\WORK\PATTERN 4.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, Help. The toolbar has icons for New, Open, Save, Print, Run, Stop, etc. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 20 Length: 321 Insert Done parsing in 0.094 seconds". The code editor window contains the following C code:

```
#include <stdio.h>
int main()
{
    int i, j, n;
    printf("Enter rows");
    scanf("%d", &n);
    for(i=1; i<=n; i++)
    {
        for(j=1; j<=n-i; j++)
        {
            printf(" ");
        }
        for(j=1; j<=n; j++)
        {
            printf("*");
        }
        printf("\n");
    }
}
```

The status bar also shows system information: 53°F Fog, ENG UK, 9:50 PM, 1/10/2023.

The screenshot shows a terminal window titled "C:\Users\dev kaakoria\Desktop\CLAB\WORK\PATTERN 4.cpp - [Executing] - Dev-C++ 5.11". The terminal output is as follows:

```
Enter rows10
*****
*****
*****
*****
*****
*****
*****
*****
*****
*****
```

At the bottom of the terminal window, the message "Process exited after 1.822 seconds with return value 0" is displayed. The status bar at the bottom of the terminal window shows "Done parsing in 0.094 seconds". The taskbar at the very bottom of the screen shows various application icons.

# QUESTION -38;

The screenshot shows the Dev-C++ IDE interface. The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar contains icons for opening files, saving, printing, and executing. The status bar at the bottom shows the current file path as C:\Users\dev kaakoria\Desktop\CLAB\WORK\PATTERN 5.cpp - Dev-C++ 5.11, line 1, column 1, and other details like compiler version (TDN-GCC 4.5.2 64-bit Release). The code editor displays the following C++ code:

```
1 #include <stdio.h>
2 int main()
3 {
4     int rows, col, i, j;
5     printf("Enter number of rows: ");
6     scanf("%d", &rows);
7     printf("Enter number of columns: ");
8     scanf("%d", &col);
9     for(i=1; i<=rows; i++)
10    {
11        for(j=1; j<=col; j++)
12        {
13            if(i%2 == 1)
14            {
15                printf("1");
16            }
17            else
18            {
19                printf("0");
20            }
21        }
22        printf("\n");
23    }
24 }
```

The status bar also shows the system tray with various icons.

The screenshot shows a terminal window titled "C:\Users\dev kaakoria\Desktop\CLAB\WORK\PATTERN 5.cpp - [Executing] - Dev-C++ 5.11". The window displays the output of the program, which asks for the number of rows and columns, then prints a pattern of 1s and 0s. The terminal window has a black background with white text. The status bar at the bottom shows the current file path as C:\Users\dev kaakoria\Desktop\CLAB\WORK\PATTERN 5.cpp - Dev-C++ 5.11, line 1, column 1, and other details like compiler version (TDN-GCC 4.9.2 64-bit Release). The status bar also shows the system tray with various icons.

```
1 #include <stdio.h>
2
3 Enter number of rows: 20
4 Enter number of columns: 10
5
6 1111111111
7 0000000000
8 1111111111
9 0000000000
10 1111111111
11 0000000000
12 1111111111
13 0000000000
14 1111111111
15 0000000000
16 1111111111
17 0000000000
18 1111111111
19 0000000000
20 1111111111
21 0000000000
22
23 Process exited after 4.491 seconds with return value 0
24 Press any key to continue . . . |
```

# QUESTION -39;

The screenshot shows the Dev-C++ IDE interface. The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar contains icons for New, Open, Save, Build, Run, and Stop. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 24 Length: 473 Insert Done parsing in 0.078 seconds". The code editor displays the following C++ code:

```
1 #include <stdio.h>
2 int main()
3 {
4     int row, col, i, j;
5     printf("Enter number of rows: ");
6     scanf("%d", &row);
7     printf("Enter number of columns: ");
8     scanf("%d", &col);
9     for(i=1; i<=row; i++)
10    {
11        for(j=1; j<=col; j++)
12        {
13            if(j%2 == 1)
14            {
15                printf("0");
16            }
17            else
18            {
19                printf("1");
20            }
21        }
22        printf("\n");
23    }
24 }
```

The status bar also shows system information: 53°F Fog, ENG UK, 9:51 PM, 1/10/2023.

The screenshot shows a terminal window titled "C:\Users\dev kaakoria\Desktop\CLAB WORK\PATTERN 6.cpp - [Executing] - Dev-C++ 5.11". The window displays the following text:

```
Enter number of rows: 10
Enter number of columns: 20
010101010101010101
010101010101010101
010101010101010101
010101010101010101
010101010101010101
010101010101010101
010101010101010101
010101010101010101
010101010101010101
010101010101010101
010101010101010101
```

At the bottom of the terminal window, it says "Process exited after 2.831 seconds with return value 0" and "Press any key to continue . . .".

The status bar at the bottom of the terminal window shows "Line: 1 Col: 1 Sel: 0 Lines: 24 Length: 473 Insert Done parsing in 0.078 seconds". The taskbar below shows various application icons, and the system tray indicates 53°F Fog, ENG UK, 9:51 PM, 1/10/2023.

# QUESTION -40;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\CLAB WORK\ C program to perform scalar matrix multiplication.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar has icons for New, Open, Save, Print, Build, Run, and Stop. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 34 Length: 709 Insert Done parsing in 0.297 seconds". The code editor contains the following C code:

```
1 #include <stdio.h>
2 int main()
3 {
4     int num,i,j,n;
5     printf("enter the size of matrix");
6     scanf("%d",&n);
7     printf("Enter elements in matrix of size %d \n",n);
8     int arr[n][n];
9     for(i=0;i<n;i++)
10    {
11        for(j=0;j<n;j++)
12        {
13            scanf("%d", &arr[i][j]);
14        }
15    }
16    printf("Enter any number to multiply with matrix A: ");
17    scanf("%d", &num);
18    for(i=0;i<n;i++)
19    {
20        for(j=0;j<n;j++)
21        {
22            arr[i][j] = num*arr[i][j];
23        }
24    }
25 }
```

The status bar also displays system information: 60°F, Smoke, ENG UK, 6:18 PM, 1/1/2023.

The screenshot shows the Dev-C++ IDE interface during execution. The title bar reads "C:\Users\dev kaakoria\Desktop\CLAB WORK\ C program to perform scalar matrix multiplication.cpp - [Executing] - Dev-C++ 5.11". The code editor window is visible with the same code as above. The terminal window shows the execution output:

```
enter the size of matrix3
Enter elements in matrix of size 3
5
6
7
8
9
5
6
10
0
Enter any number to multiply with matrix A: 0

Resultant matrix=
0 0 0
0 0 0
0 0 0

Process exited after 13.81 seconds with return value 0
Press any key to continue . . . |
```

The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 34 Length: 709 Insert Done parsing in 0.297 seconds". The system status bar at the bottom right shows 6:20 PM, 1/1/2023.

# QUESTION -41;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\CLAB\WORK\CIRCLE USING FUNCTIONS.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar has icons for New, Open, Save, Print, Find, Copy, Paste, Cut, Undo, Redo, and others. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 29 Length: 685 Insert Done parsing in 0.078 seconds". The bottom right corner shows system status: 60°F, Smoke, ENG UK, 6:20 PM, 1/11/2023.

```
#include <stdio.h>
int Diameter(int radius);
int Circumference(int radius);
int Area(int radius);
int main()
{
    int radius, dia, circ, area;
    printf("Enter radius of circle: ");
    scanf("%d", &radius);
    dia = Diameter(radius);
    circ = Circumference(radius);
    area = Area(radius);

    printf("Diameter of the circle = %d units\n", dia);
    printf("Circumference of the circle = %d units\n", circ);
    printf("Area of the circle = %d units", area);
}
int Diameter(int radius)
{
    return (2 * radius);
}
int Circumference(int radius)
```

The screenshot shows a terminal window titled "C:\Users\dev kaakoria\Desktop\CLAB\WORK\CIRCLE USING FUNCTIONS.cpp - [Executing] - Dev-C++ 5.11". The window displays the output of the program: "Enter radius of circle: 50", "Diameter of the circle = 100 units", "Circumference of the circle = 314 units", and "Area of the circle = 7850 units". Below the output, it says "Process exited after 2.326 seconds with return value 0" and "Press any key to continue . . ." The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 29 Length: 685 Insert Done parsing in 0.125 seconds". The bottom right corner shows system status: 60°F, Smoke, ENG UK, 6:20 PM, 1/11/2023.

```
21 }
22 int Circumference(int radius)
23 }
```

# QUESTION -42;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\CLAB WORK\FIBONACII SERIES.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar has icons for New, Open, Save, Print, Build, Run, and Stop. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 25 Length: 352 Insert Done parsing in 0.015 seconds". The code editor displays the following C++ code:

```
1 #include <stdio.h>
2
3 int main()
4 {
5     int a, b, c, i, n;
6
7     printf("Enter number of terms: ");
8     scanf("%d", &n);
9
10    a = 0;
11    b = 1;
12    c = 0;
13
14    printf("Fibonacci terms: \n");
15    for(i=1; i<=n; i++)
16    {
17        printf("%d, ", c);
18
19        a = b;
20        b = c;
21        c = a + b;
22    }
23
```

The code prompts the user for the number of terms and then prints the Fibonacci series up to that number. The status bar also shows system information like "60°F Smoke" and the system tray.

The screenshot shows a terminal window titled "C:\Users\dev kaakoria\Desktop\CLAB WORK\FIBONACII SERIES.cpp - [Executing] - Dev-C++ 5.11". The terminal output is as follows:

```
Enter number of terms: 10
Fibonacci terms:
0, 1, 1, 2, 3, 5, 8, 13, 21, 34,
Process exited after 2.851 seconds with return value 0
Press any key to continue . . .
```

The code in the editor at the bottom is identical to the one in the first screenshot. The status bar at the bottom of the terminal window shows "22 | 23" and the system tray information.

# QUESTION -43;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\LAB\WORK\IDENTITY MATRIX.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar has icons for New, Open, Save, Print, Build, Run, and Stop. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 49 Length: 1008 Insert Done parsing in 0.125 seconds". The bottom right corner shows system status: ENG UK, 6:21 PM, 1/1/2023.

```
1 #include <stdio.h>
2 int main()
3 {
4     int n;
5     printf("enetr the size of the array");
6     scanf("%d",&n);
7     int arr[n][n];
8     int i,j,identity;
9     printf("Enter elements in matrix of size %d*%d\n",n,n);
10    for(i=0;i<n;i++)
11    {
12        for(j=0;j<n;j++)
13        {
14            scanf("%d", &arr[i][j]);
15        }
16    }
17    identity= 1;
18    for(i=0;i<n;i++)
19    {
20        for(j=0;j<n;j++)
21        {
22            if(i==j && arr[i][j]!=1)
23        }
24    }
25 }
```

The screenshot shows a terminal window titled "C:\Users\dev kaakoria\Desktop\LAB\WORK\IDENTITY MATRIX.cpp - [Executing] - Dev-C++ 5.11". The terminal output is as follows:

```
enetr the size of the array2
Enter elements in matrix of size 2*2
50
10
10
50
The given matrix is not Identity Matrix
Process exited after 6.174 seconds with return value 0
Press any key to continue . . . |
```

The bottom part of the screenshot shows the same Dev-C++ IDE interface as the first one, with the cursor on the line 21 of the code.

# QUESTION -44;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\CLAB WORK\LINEAR SEARCH.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar has icons for New, Open, Save, Print, Run, Stop, and Exit. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 23 Length: 616 Insert Done parsing in 0.078 seconds". The bottom right corner shows system status: 60°F, Smoke, ENG UK, 6:22 PM, 1/1/2023.

```
1 #include <stdio.h>
2 int main()
3 {
4     int search, c, n;
5     printf("Enter the number of elements in array\n");
6     scanf("%d",&n);
7     int array[n];
8     for ( c = 0 ; c < n ; c++ )
9         scanf("%d",&array[c]);
10    printf("Enter the number to search\n");
11    scanf("%d",&search);
12    for ( c = 0 ; c < n ; c++ )
13    {
14        if ( array[c] == search ) /* if required element found */
15        {
16            printf("%d is present at location %d.\n", search, c+1);
17            break;
18        }
19    }
20    if ( c == search )
21        printf("%d is not present in array.\n", search);
22    return 0;
23 }
```

The screenshot shows the Dev-C++ IDE interface during execution. The title bar reads "C:\Users\dev kaakoria\Desktop\CLAB WORK\LINEAR SEARCH.cpp - [Executing] - Dev-C++ 5.11". The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 23 Length: 616 Insert Done parsing in 0.078 seconds". The bottom right corner shows system status: 60°F, Smoke, ENG UK, 6:22 PM, 1/1/2023.

```
C:\Users\dev kaakoria\Desktop> LINEAR SEARCH.cpp
```

The terminal window displays the following output:

```
Enter the number of elements in array
3
10
10
20
Enter the number to search
10
10 is present at location 1.

Process exited after 11.36 seconds with return value 0
Press any key to continue . . .
```

# QUESTION -45;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\CLAB WORK\PANINDROM OF STRING WITHOUT STRING FUNCTION.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, ASpell, Window, Help. The toolbar has icons for New, Open, Save, Print, Build, Run, Stop, and Exit. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 25 Length: 469 Insert Done parsing in 0.016 seconds". The code editor displays the following C code:

```
1 #include <stdio.h>
2 int main()
3 {
4     char str[50], length = 0;
5     int count= 1, i;
6     printf("Enter the String\n");
7     gets(str);
8     for (i = 0;str[i]!='\0'; i++)
9     {
10         length++;
11     }
12
13     for (i = 0; i < length / 2; i++)
14     {
15         if (str[i] != str[length - 1 - i])
16         {
17             count = 0;
18             break;
19         }
20     }
21     if (count == 1)
22         printf("%s is a palindrome.", str);
23     else
```

The status bar at the bottom right shows "6:23 PM 1/1/2023".

The screenshot shows a terminal window titled "C:\Users\dev kaakoria\Desktop\CLAB WORK\PANINDROM OF STRING WITHOUT STRING FUNCTION.cpp - [Executing] - Dev-C++ 5.11". The window displays the following output:

```
Enter the String
NAMAN
Program NAMAN is a palindrome.
```

Below the terminal window, the code from the previous screenshot is shown again, with the last few lines highlighted:

```
20 }
21     if (count == 1)
22         printf("%s is a palindrome.", str);
23     else
```

The status bar at the bottom right shows "6:23 PM 1/1/2023".

# QUESTION -46;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\LAB WORK\PRIME NO. IN A RANGE.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar has icons for New, Open, Save, Print, Run, Stop, and others. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 18 Length: 397 Insert Done parsing in 0.078 seconds". The code editor window contains the following C code:

```
1 #include<stdio.h>
2 int main(){
3     int i, num, n, count;
4     printf("Enter the range: ");
5     scanf("%d", &n);
6     printf("The prime numbers in between the range 1 to %d:",n);
7     for(num = 1;num<=n;num++){
8         count = 0;
9         for(i=2;i<=num/2;i++){
10             if(num%i==0){
11                 count++;
12                 break;
13             }
14         }
15         if(count==0 && num!= 1)
16             printf("%d ",num);
17     }
18 }
```

The screenshot shows the Dev-C++ IDE interface during execution. The title bar reads "C:\Users\dev kaakoria\Desktop\LAB WORK\PRIME NO. IN A RANGE.cpp - [Executing] - Dev-C++ 5.11". The code editor window is the same as above. The terminal window below it displays the output:

```
Enter the range: 10
The prime numbers in between the range 1 to 10:2 3 5 7
Process exited after 3.697 seconds with return value 0
Press any key to continue . . .
```

## **QUESTION -47;**

C:\Users\dev kaakoria\Desktop\C LAB WORK\SPARSE MATRIX.cpp - Dev-C++ 5.11

File Edit Search View Project Execute Tools ASyntax Window Help

(globals)

Project Classes Debug PRIME NO. IN A RANGE.cpp SPARSE MATRIX.cpp

```
1 #include <stdio.h>
2 int main()
3 {
4     int n;
5     printf("enter the size the matrix");
6     scanf("%d",&n);
7     int arr[n][n];
8     int i,j,count=0;
9     printf("Enter elements in matrix of size 3x3: \n");
10    for(i=0;i<n;i++)
11    {
12        for(j=0;j<n;j++)
13        {
14            scanf("%d", &arr[i][j]);
15        }
16    }
17    for(i=0;i<n;i++)
18    {
19        for(j=0;j<n;j++)
20        {
21            if(arr[i][j] == 0)
22            {
23                count++;
```

Compiler Resources Compile Log Debug Find Results

Line: 1 Col: 1 Sel: 0 Lines: 36 Length: 677 Insert Done parsing in 0.016 seconds

60°F Smoke

Q Search

624 PM 1/12/2023

# QUESTION -48;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\LAB WORK\STRING FUNCTIONS.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar has icons for New, Open, Save, Print, Find, Replace, Copy, Paste, Cut, Delete, Undo, Redo, and others. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 36 Length: 1114 Insert Done parsing in 0.063 seconds". The bottom right corner shows system status: ENG UK, 6:26 PM, 1/1/2023.

```
1 # include <stdio.h>
2 # include <string.h>
3 int main()
4 {
5     char string1[40], string2[40] ;
6     printf("Enter the first string : \n\n") ;
7     gets(string1) ;
8     printf("\nEnter the second string : \n\n") ;
9     gets(string2) ;
10    printf("\nString 1 = %s & String 2 = %s ", string1, string2) ;
11
12    printf("- Length is : %d and %d", strlen(string1), strlen(string2)) ;
13
14    printf("\n\nString 1 = %s & String 2 = %s ", string1, string2) ;
15
16    printf("- Uppercase is : %s and %s", strupr(string1), strupr(string2));
17
18    printf("\n\nString 1 = %s & String 2 = %s ", string1, string2) ;
19
20    printf("- Lowercase is : %s and %s", strlwr(string1), strlwr(string2));
21
22    printf("\n\nString 1 = %s & String 2 = %s ", string1, string2) ;
23
```

The screenshot shows a terminal window titled "C:\Users\dev kaakoria\Desktop\LAB WORK\STRING FUNCTIONS.cpp - [Executing] - Dev-C++ 5.11". The window displays the following output:

```
Enter the first string :
NAMAN
Enter the second string :
KSHITIZ

String 1 = NAMAN & String 2 = KSHITIZ - Length is : 5 and 7
String 1 = NAMAN & String 2 = KSHITIZ - Uppercase is : NAMAN and KSHITIZ
String 1 = NAMAN & String 2 = KSHITIZ - Lowercase is : naman and kshitiz
String 1 = naman & String 2 = kshitiz - Reverse is : naman and zitihsk
String 1 = naman & String 2 = zitihsk - String copy is : zitihsk
String 1 = zitihsk & String 2 = zitihsk - Concatenation is : zitihskzitihsk
String 1 = zitihskzitihsk & String 2 = zitihsk

Process exited after 6.373 seconds with return value 0
Press any key to continue . . .
```

The bottom status bar shows "Line: 1 Col: 1 Sel: 0 Lines: 36 Length: 1114 Insert Done parsing in 0.094 seconds". The bottom right corner shows system status: ENG UK, 6:26 PM, 1/1/2023.

## **QUESTION -49;**

C:\Users\dev kaakoria\Desktop\C LAB WORK\SUM OF DIAGONALS.cpp - Dev-C++ 5.11

File Edit Search View Project Execute Tools AsTyle Window Help

(globals) Project Classes Debug STRING FUNCTIONS.cpp SUM OF DIAGONALS.cpp

```
1 #include <stdio.h>
2 int main()
3 {
4     int n;
5     printf("enter the size ofd the array");
6     scanf("%d",&n);
7     int arr[n][n];
8     int i,j,sum= 0;
9     printf("Enter elements in matrix of size %d\n",n);
10    for(i=0;i<n;i++)
11    {
12        for(j=0;j<n;j++)
13        {
14            scanf("%d", &arr[i][j]);
15        }
16    }
17    for(i=0;i<n;i++)
18    {
19        sum = sum + arr[i][i];
20    }
21    printf("\nSum of main diagonal elements = %d", sum);
22 }
```

Compiler Resources Compile Log Debug Find Results

Line: 1 Col: 1 Sel: 0 Lines: 22 Length: 452 Insert Done parsing in 0.016 seconds

60°F Smoke

ENG UK 6:27 PM 11/12/2023

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\C LAB WORK\SUM OF DIAGONALS.cpp - [Executing] - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, Help. The toolbar has icons for New, Open, Save, Print, etc. The status bar at the bottom shows "Line: 1 Col: 1", system icons like battery and network, and a timestamp "6:27 PM 1/11/2023".

Project Classes Debug STRING FUNCTIONS.cpp SUM OF DIAGONALS.cpp

```
1 #include <stdio.h>
2 int main()
3 {
4     int n, i, j, sum = 0;
5     printf("enter the size of the array");
6     scanf("%d", &n);
7     printf("Enter elements in matrix of size %d", n);
8     for (i = 0; i < n; i++)
9     {
10         for (j = 0; j < n; j++)
11         {
12             if (i == j)
13                 sum += a[i][j];
14         }
15     }
16     printf("Sum of main diagonal elements = %d", sum);
17 }
```

C:\Users\dev kaakoria\Desktop\SUM OF DIAGONALS.cpp

```
enter the size of the array2
Enter elements in matrix of size 2
5
50
10
20

Sum of main diagonal elements = 25
Process exited after 5.645 seconds with return value 0
Press any key to continue . . . |
```

# QUESTION -50;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kaakoria\Desktop\LAB WORK\SWAPPING USING CALL BY VALUE.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar has icons for New, Open, Save, Print, Run, Stop, and others. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 19 Length: 398 Insert Done parsing in 0.078 seconds". The code editor contains the following C code:

```
1 #include <stdio.h>
2 void swap(int, int);
3 int main()
4 {
5     int K, J , a, b;
6     printf("Enter the value of K and J\n");
7     scanf("%d%d",&K,&J);
8     printf("Before Swapping\nK = %d\nJ = %d\n", K, J);
9     swap(K, J);
10    printf("After Swapping\nK = %d\nJ = %d\n",a,b);
11 }
12 void swap(int a, int b)
13 {
14     int c;
15     c = b;
16     b = a;
17     a =c;
18     printf("Values of a and b is %d %d\n",a,b);
19 }
```

The screenshot shows a terminal window titled "C:\Users\dev kaakoria\Desktop\LAB WORK\SWAPPING USING CALL BY VALUE.cpp - [Executing] - Dev-C++ 5.11". The window displays the following text:

```
Enter the value of K and J
20
30
Before Swapping
K = 20
J = 30
Values of a and b is 30 20
After Swapping
K = 0
J = 1

-----
Process exited after 5.498 seconds with return value 0
Press any key to continue . . .
```

# QUESTION -51;

The screenshot shows the Dev-C++ IDE interface. The title bar reads "C:\Users\dev kakoria\Desktop\LAB WORK\Untitled10.cpp - Dev-C++ 5.11". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar contains icons for New, Open, Save, Print, Run, Stop, and others. The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 14 Length: 371 Insert Done parsing in 0 seconds". The code editor window displays the following C code:

```
1 #include <stdio.h>
2 int main() {
3     char str[100], c;
4     int count = 0;
5     printf("Enter a string");
6     fgets(str, sizeof(str), stdin);
7     printf("Enter a character to find its frequency: ");
8     scanf("%c", &c);
9     for (int i = 0; str[i] != '\0'; ++i) {
10         if (c == str[i])
11             ++count;
12     }
13     printf("Frequency of %c = %d", c, count);
14 }
```

The status bar also shows system information: 60°F, Smoke, ENG UK, 6:27 PM, 1/11/2023.

The screenshot shows a terminal window titled "Untitled10.cpp" with the command "C:\Users\dev kakoria\Desktop\LAB WORK\Untitled10.cpp - [Executing] - Dev-C++ 5.11". The terminal output is as follows:

```
Enter a stringKSHITIZ
Enter a character to find its frequency: K
Frequency of K = 1
-----
Process exited after 6.542 seconds with return value 0
Press any key to continue . . .
```

The status bar at the bottom shows "Line: 1 Col: 1 Sel: 0 Lines: 14 Length: 371 Insert Done parsing in 0 seconds". The system status bar at the bottom right shows 60°F, Smoke, ENG UK, 6:28 PM, 1/11/2023.

