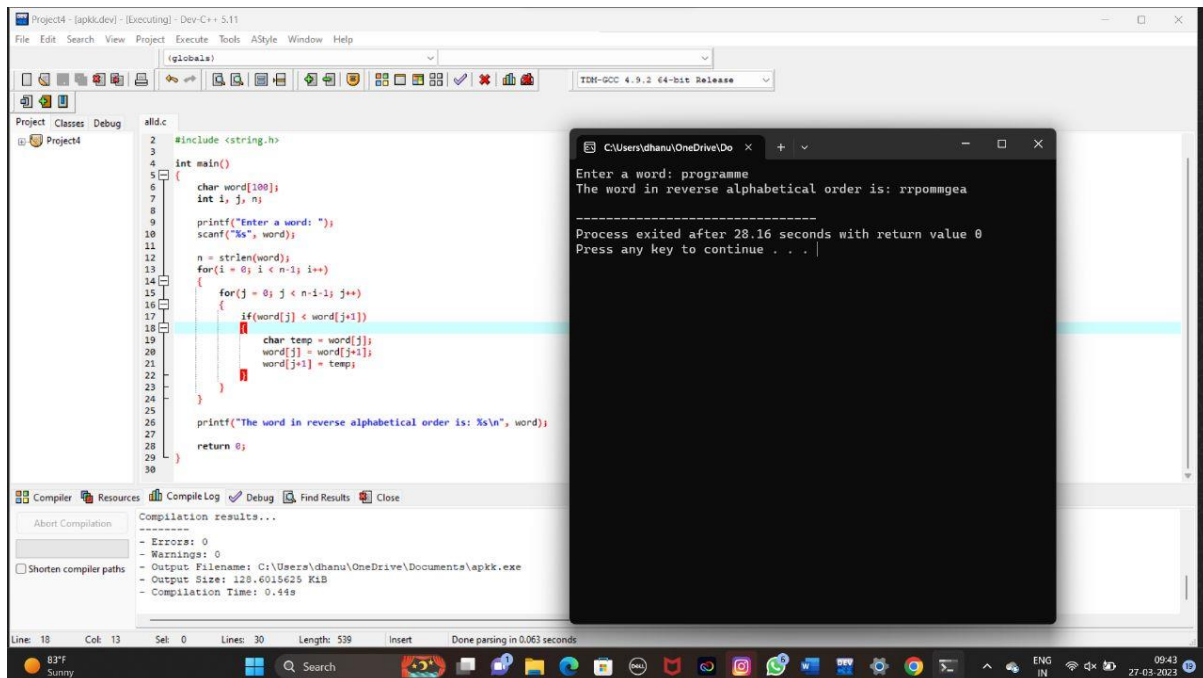
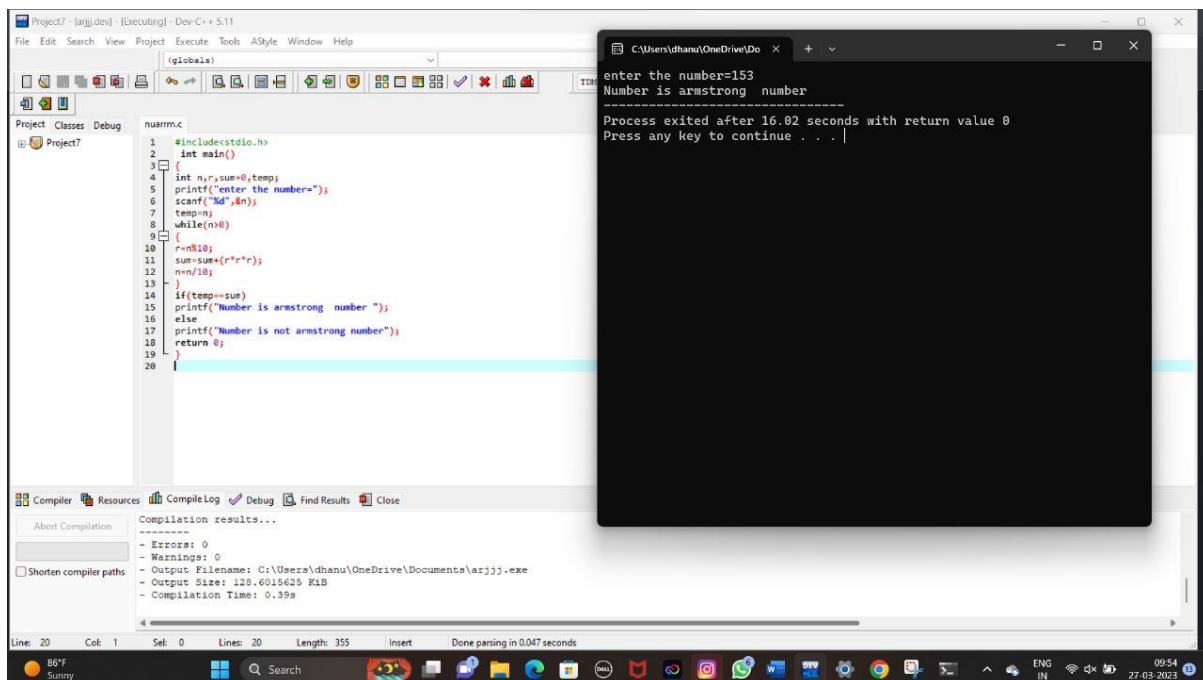


# Analytical questions for practice

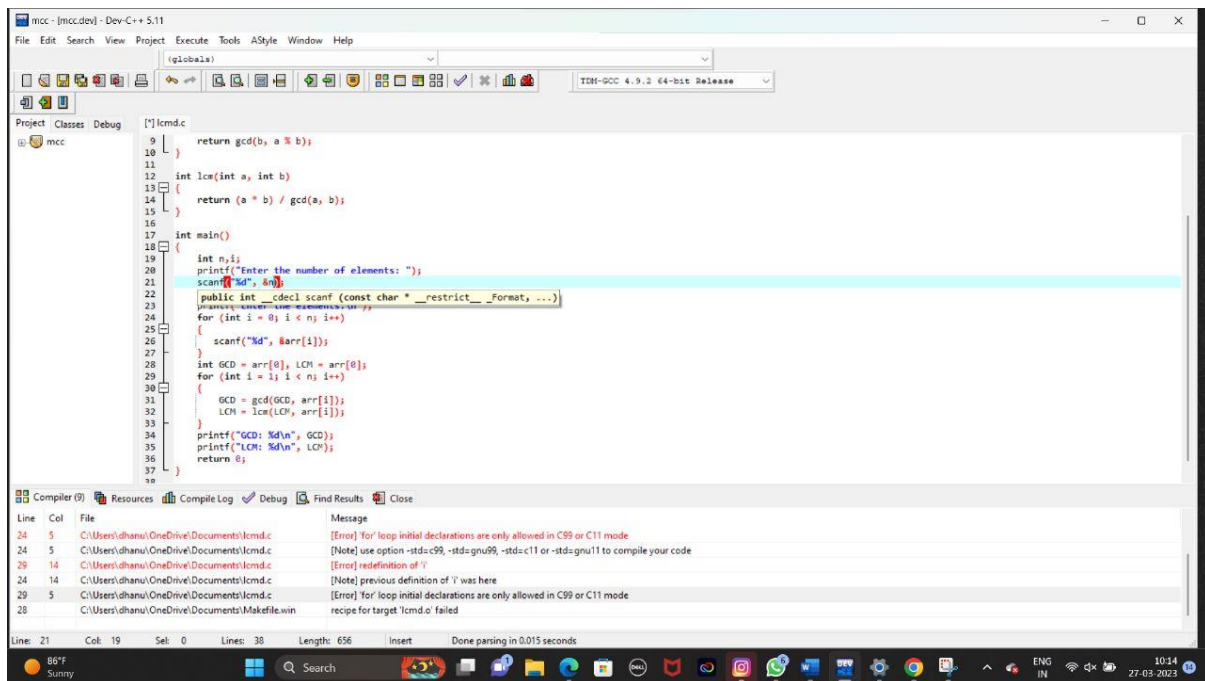
## 1.) CEQ40



## 2.)CEQ39



### 3.)CEQ5



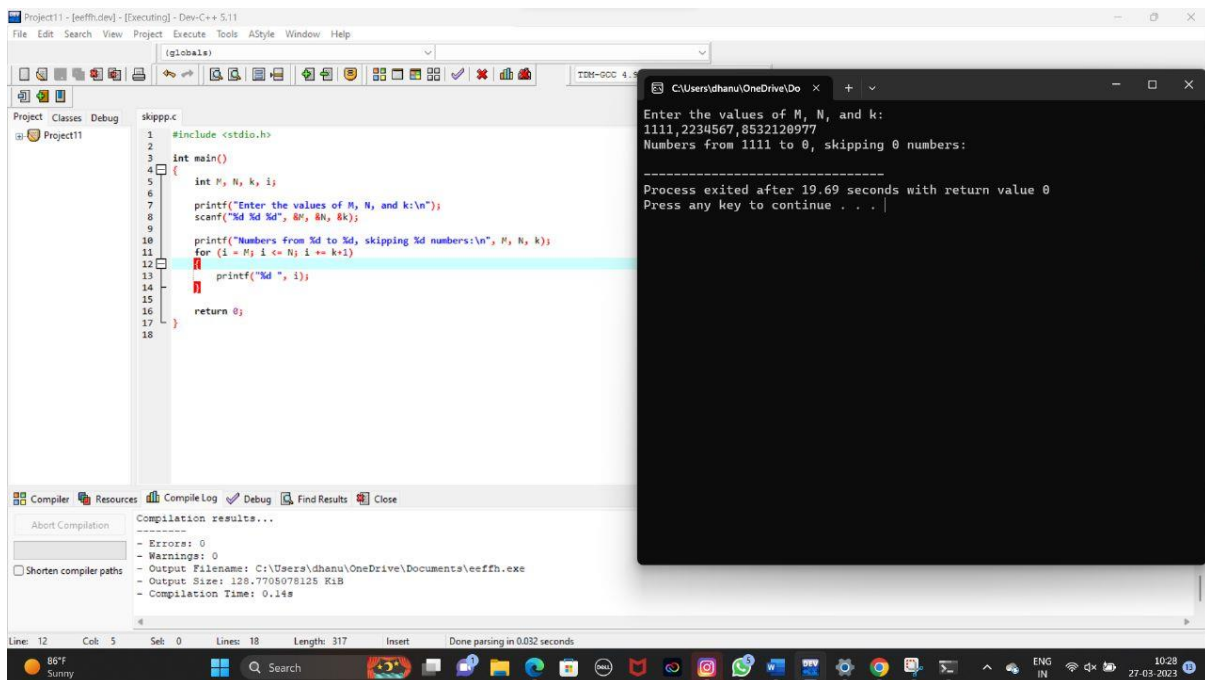
The screenshot shows the Dev-C++ IDE with a C program named `lcmd.c`. The code implements a function to calculate the Least Common Multiple (LCM) of two numbers `a` and `b` using their Greatest Common Divisor (GCD). The `main` function prompts the user to enter the number of elements `n`, reads `n` integers into an array, and then calculates and prints the GCD and LCM of the array elements.

```
1  return gcd(b, a % b);
2  }
3
4  int lcm(int a, int b)
5  {
6      return (a * b) / gcd(a, b);
7  }
8
9  int main()
10 {
11     int n,i;
12     printf("Enter the number of elements: ");
13     scanf("%d", &n);
14     public int _cdecl scanf(const char * __restrict __format, ...)
15     {
16         for (int i = 0; i < n; i++)
17         {
18             scanf("%d", &arr[i]);
19         }
20     }
21     int GCD = arr[0], LCM = arr[0];
22     for (int i = 1; i < n; i++)
23     {
24         GCD = gcd(GCD, arr[i]);
25         LCM = lcm(LCM, arr[i]);
26     }
27     printf("GCD: %d\n", GCD);
28     printf("LCM: %d\n", LCM);
29     return 0;
30 }
```

The Compiler Log shows several errors:

- Line 24: [Error] for loop initial declarations are only allowed in C99 or C11 mode
- Line 24: [Note] use option -std=c99, -std=gnu99, -std=c11 or -std=gnu11 to compile your code
- Line 29: [Error] redefinition of 'i'
- Line 24: [Note] previous definition of 'i' was here
- Line 29: [Error] for loop initial declarations are only allowed in C99 or C11 mode
- Line 28: [Error] recipe for target 'lcmd.o' failed

### 4.)CEQ10



The screenshot shows the Dev-C++ IDE with a C program named `skipp.c`. The code prompts the user to enter values for `M`, `N`, and `k`, and then prints numbers from `M` to `N`, skipping `k` numbers. The output window shows the execution results for `M=1111`, `N=2234567`, and `k=8532120977`.

```
1  #include <stdio.h>
2
3  int main()
4  {
5      int M, N, k, i;
6
7      printf("Enter the values of M, N, and k:\n");
8      scanf("%d %d %d", &M, &N, &k);
9
10     printf("Numbers from %d to %d, skipping %d numbers:\n", M, N, k);
11     for (i = M; i <= N; i += k)
12     {
13         printf("%d ", i);
14     }
15
16     return 0;
17 }
```

The output window shows the following text:

```
Enter the values of M, N, and k:
1111,2234567,8532120977
Numbers from 1111 to 0, skipping 0 numbers:
-----
Process exited after 19.69 seconds with return value 0
Press any key to continue . . .
```

### 5.)CEQ13

The screenshot shows a C++ IDE with a project named 'sortout'. The source file 'maxxxoix.c' contains the following code:

```

1 #include <stdio.h>
2 #include <string.h>
3
4 #define MAX_NAMES 50
5 #define MAX_NAME_LENGTH 50
6
7 int main() {
8     char names[MAX_NAMES][MAX_NAME_LENGTH];
9     int num_names, i, j;
10    char temp[MAX_NAME_LENGTH];
11    int ascending;
12    printf("Enter the number of names you want to sort (up to %d): ", MAX_NAMES);
13    scanf("%d", &num_names);
14    printf("Enter %d names, one per line:\n", num_names);
15    for (i = 0; i < num_names; i++) {
16        scanf("%s", names[i]);
17    }
18    printf("Sort names in ascending order (1) or descending order (0): ");
19    scanf("%d", &ascending);
20    for (i = 0; i < num_names - 1; i++)
21    {
22        for (j = i + 1; j < num_names; j++)
23        {
24            if ((ascending && strcmp(names[i], names[j]) > 0) ||
25                (!ascending && strcmp(names[i], names[j]) < 0))
26            {
27                strcpy(temp, names[i]);
28                strcpy(names[i], names[j]);
29                strcpy(names[j], temp);
30            }
31        }
32    }
33    printf("Sorted names:\n");
34    for (i = 0; i < num_names; i++)
35        printf("%s\n", names[i]);
36    printf("-----\n");
37    printf("Process exited after 37.65 seconds with return value 0\n");
38    printf("Press any key to continue . . . ");
39    getch();
40    return 0;
41}

```

The execution output shows the user entering 4 names: beer, apple, fizz, and orange. The program sorts them in ascending order and displays the sorted list: apple, beer, fizz, orange.

## 6.)CEQ14

The screenshot shows a C++ IDE with a project named 'Project13'. The source file 'matrixmul.c' contains the following code:

```

5 int main()
6 {
7     int matrix1[ROW_SIZE][COL_SIZE] = {{1, 2}, {3, 4}};
8     int matrix2[ROW_SIZE][COL_SIZE] = {{5, 6}, {7, 8}};
9     int result[ROW_SIZE][COL_SIZE] = {{0}};
10    int i, j, k;
11    for (i = 0; i < ROW_SIZE; i++)
12    {
13        for (j = 0; j < COL_SIZE; j++)
14        {
15            for (k = 0; k < ROW_SIZE; k++)
16            {
17                result[i][j] += matrix1[i][k] * matrix2[k][j];
18            }
19        }
20    }
21    printf("Resultant matrix:\n");
22    for (i = 0; i < ROW_SIZE; i++)
23    {
24        for (j = 0; j < COL_SIZE; j++)
25        {
26            printf("%d ", result[i][j]);
27        }
28        printf("\n");
29    }
30    return 0;
31}

```

The execution output shows the resultant matrix: 19 22, 43 50.

## 7.)CEQ7

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

8.)CEQ18

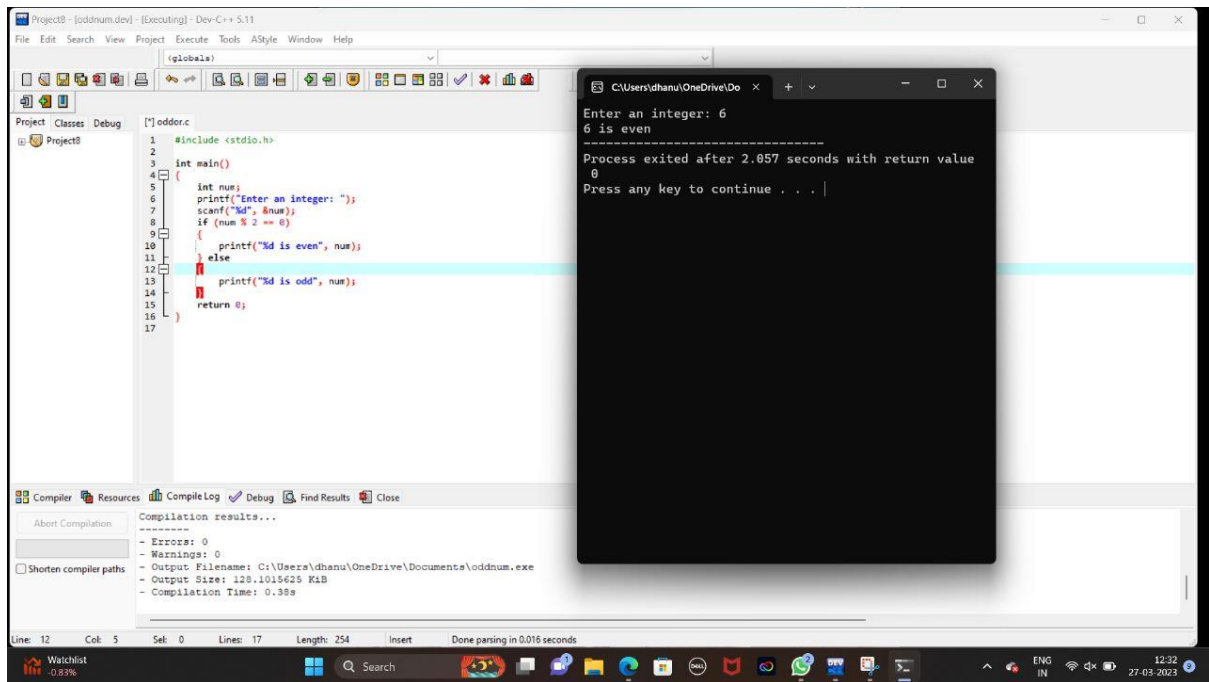
```
1. #include <stdio.h>
2. int main()
3. {
4. int rows, i, j, space;
5. printf("Enter the number of rows: ");
6. scanf("%d", &rows);
7. for (i = rows; i >= 1; --i) {
8. for (space = 0; space < rows - i; ++space)
9. {
10. printf(" ");
11. }
12. for (j = i; j <= 2 * i - 1; ++j)
13. {
14. printf("* ");
15. }
16. printf("\n");
17. }
18. return 0;
19. }
```

Enter the number of rows: 6

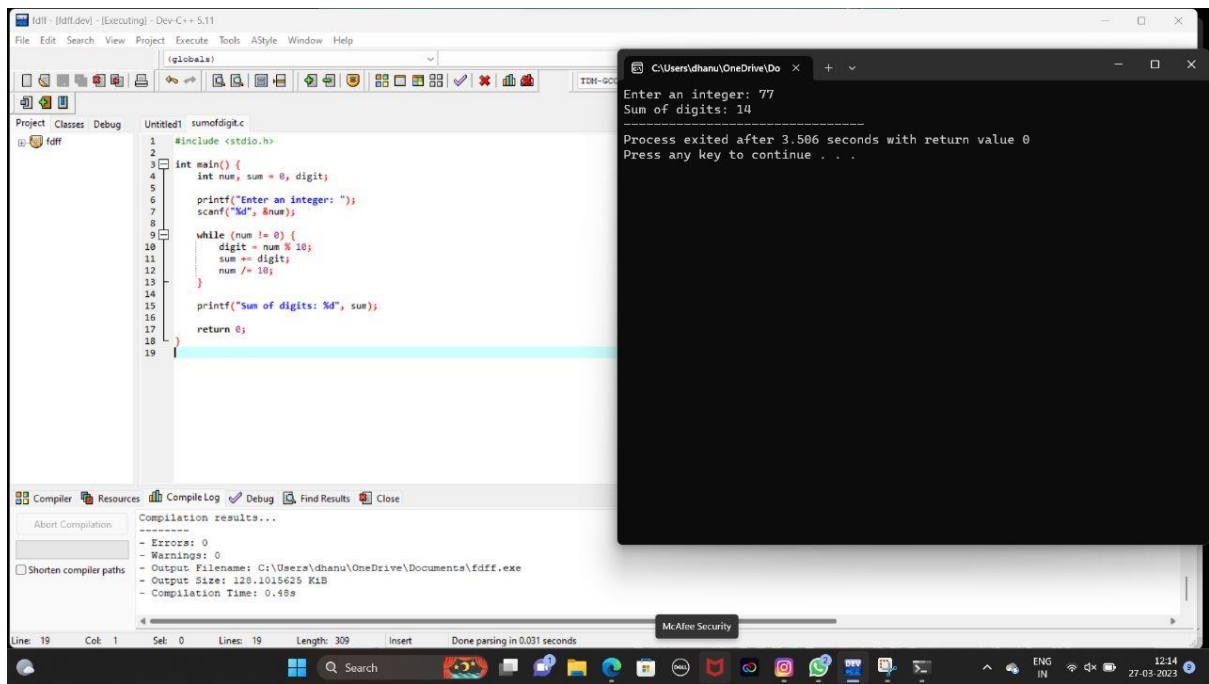
```
*****
 *   *
*   *   *
*   *   *   *
*   *   *   *   *
*****
```

Process exited after 2.649 seconds with return value 0  
Press any key to continue . . . |

9.)CEQ36

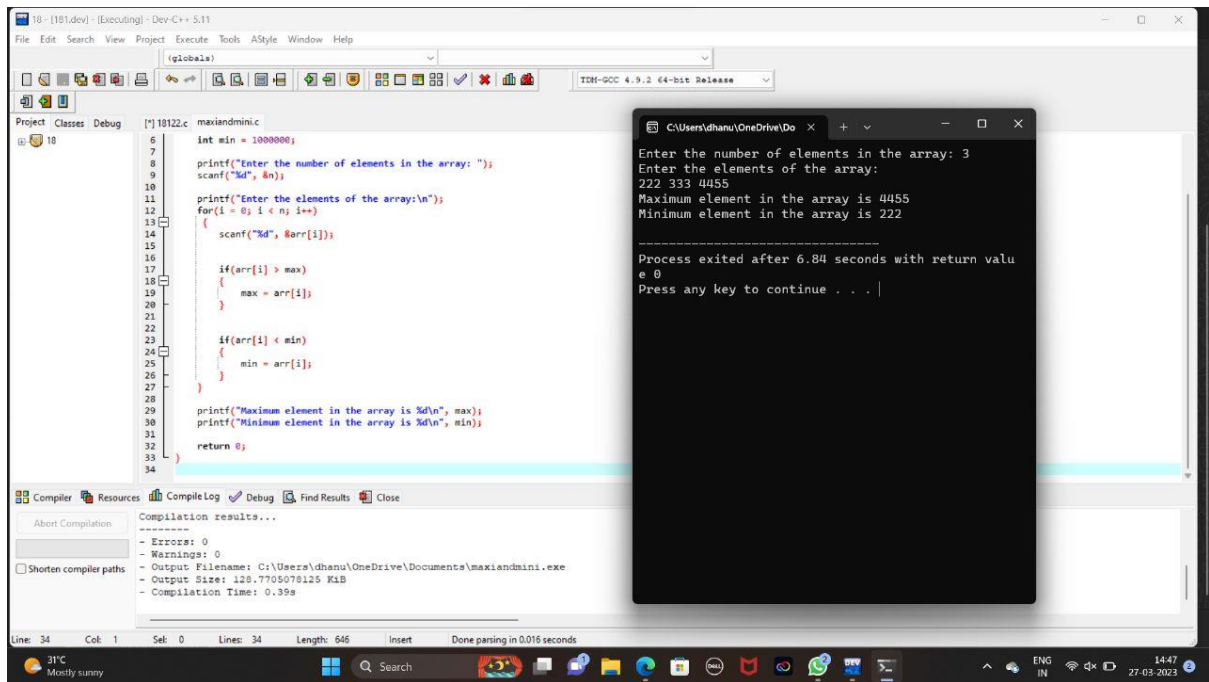


10.)CEQ43

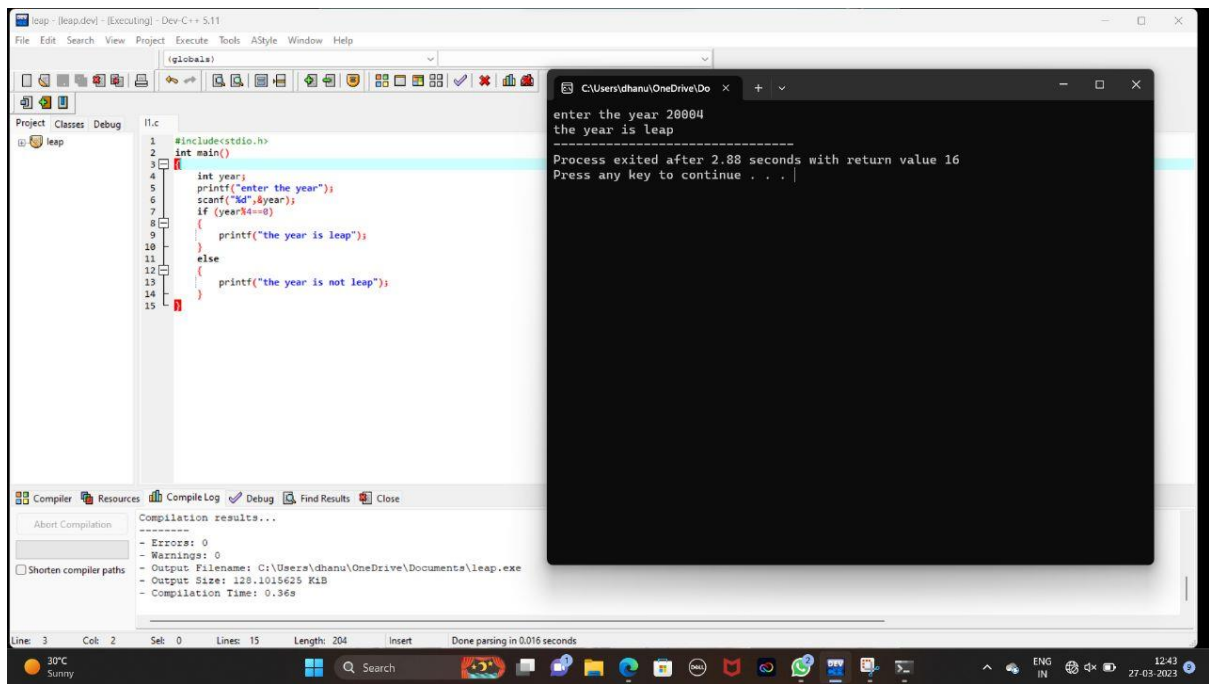


11.)CMQ11

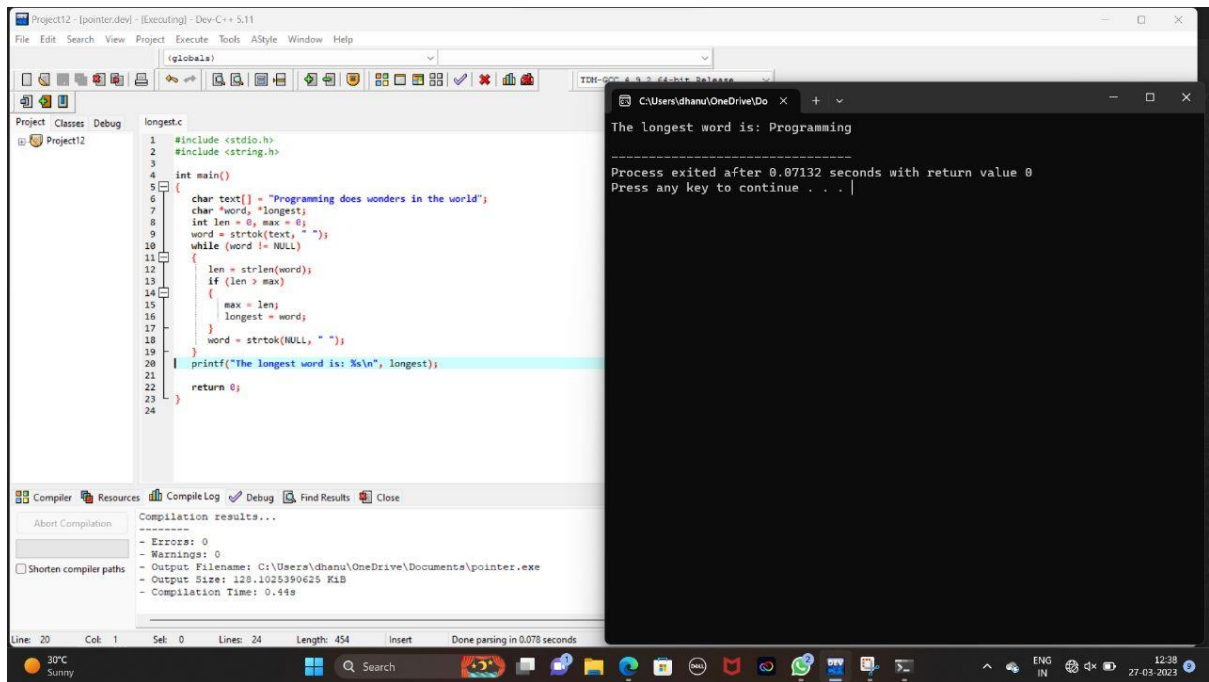




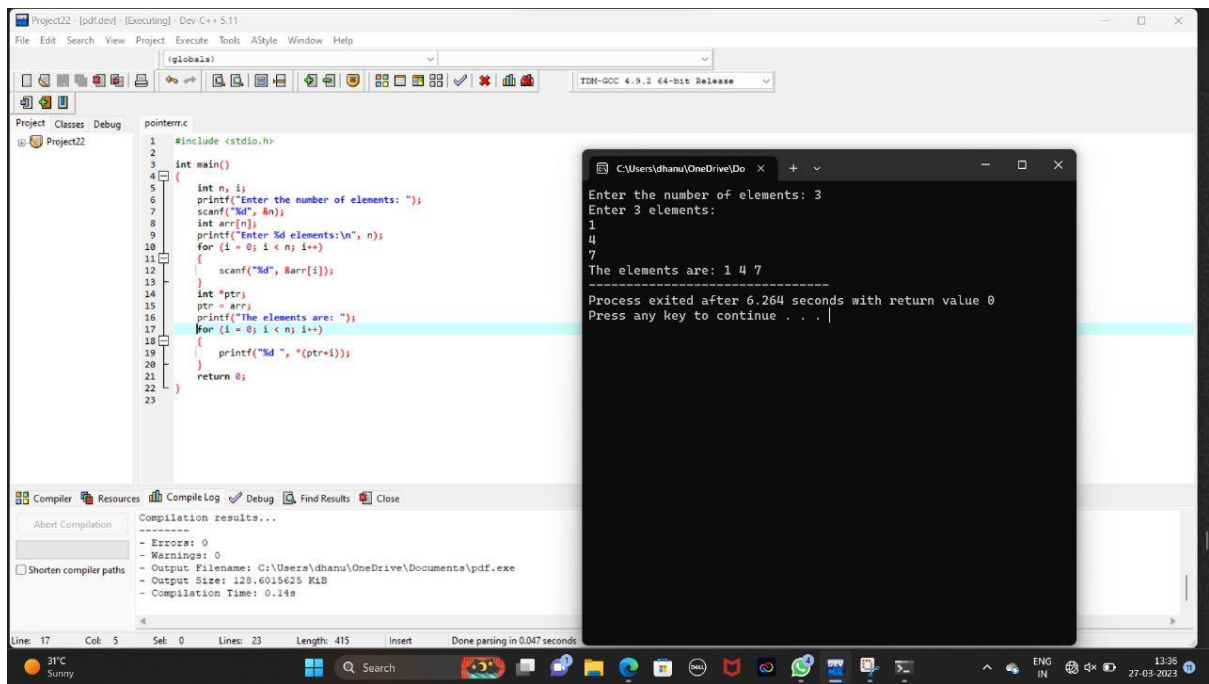
12.)CMQ1



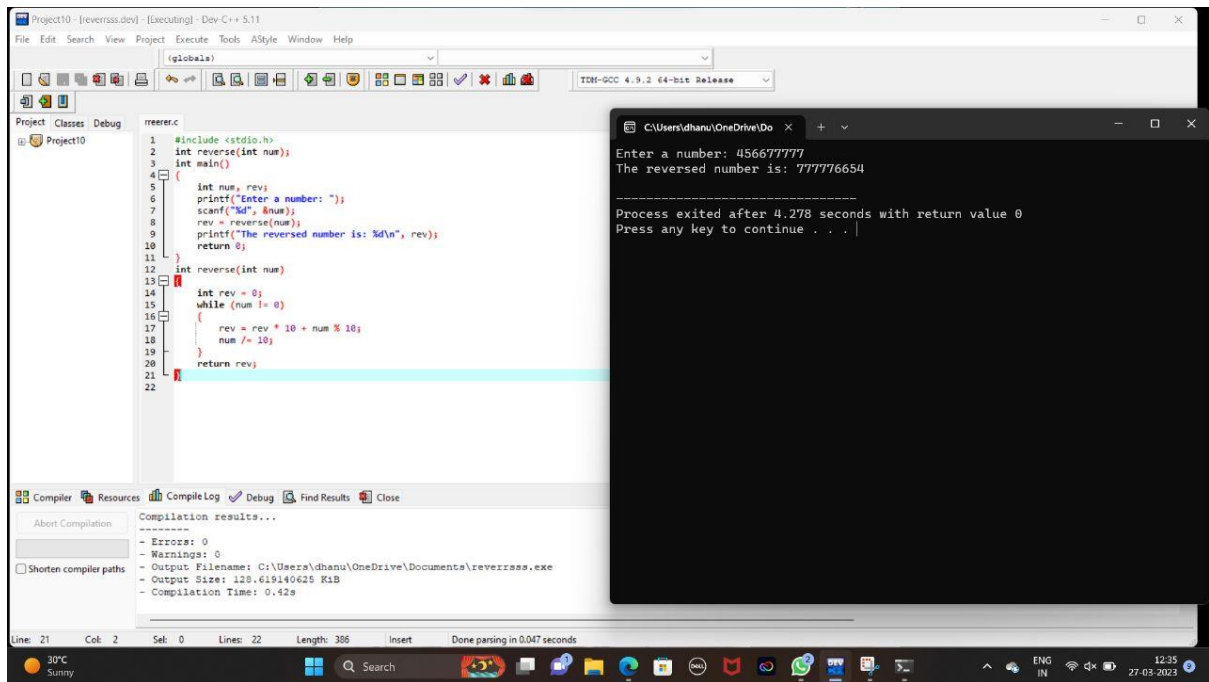
13.)CMQ6



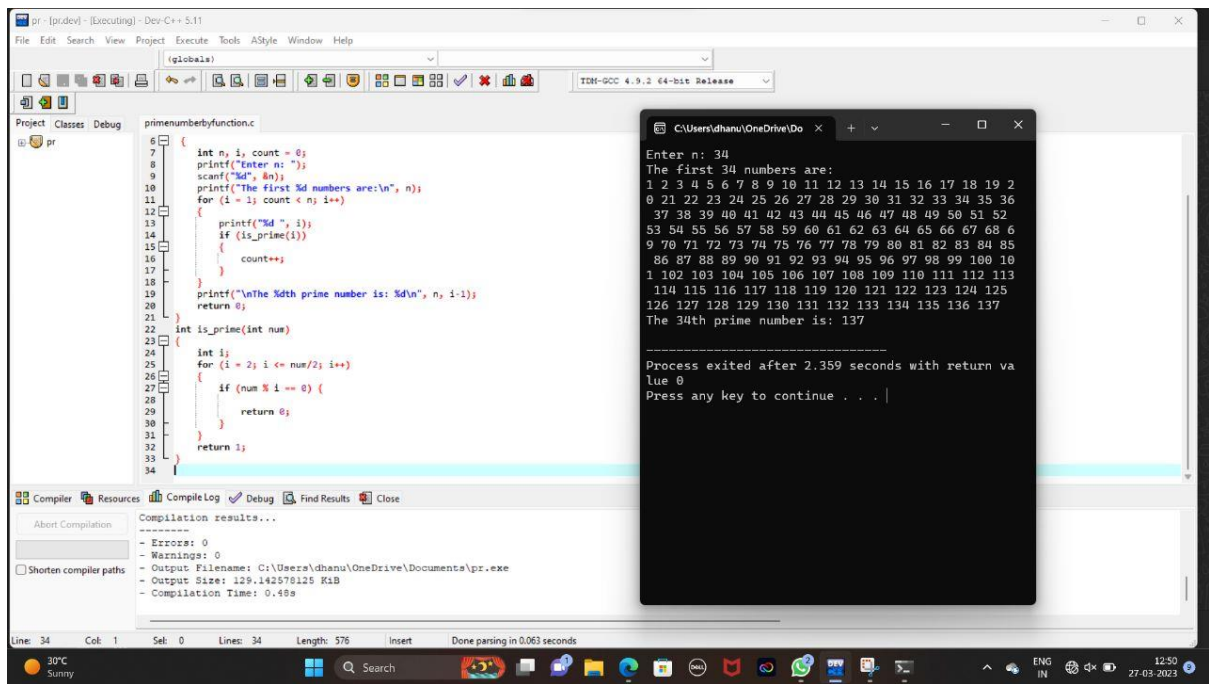
14.)CMQ14



15.)CMQ20

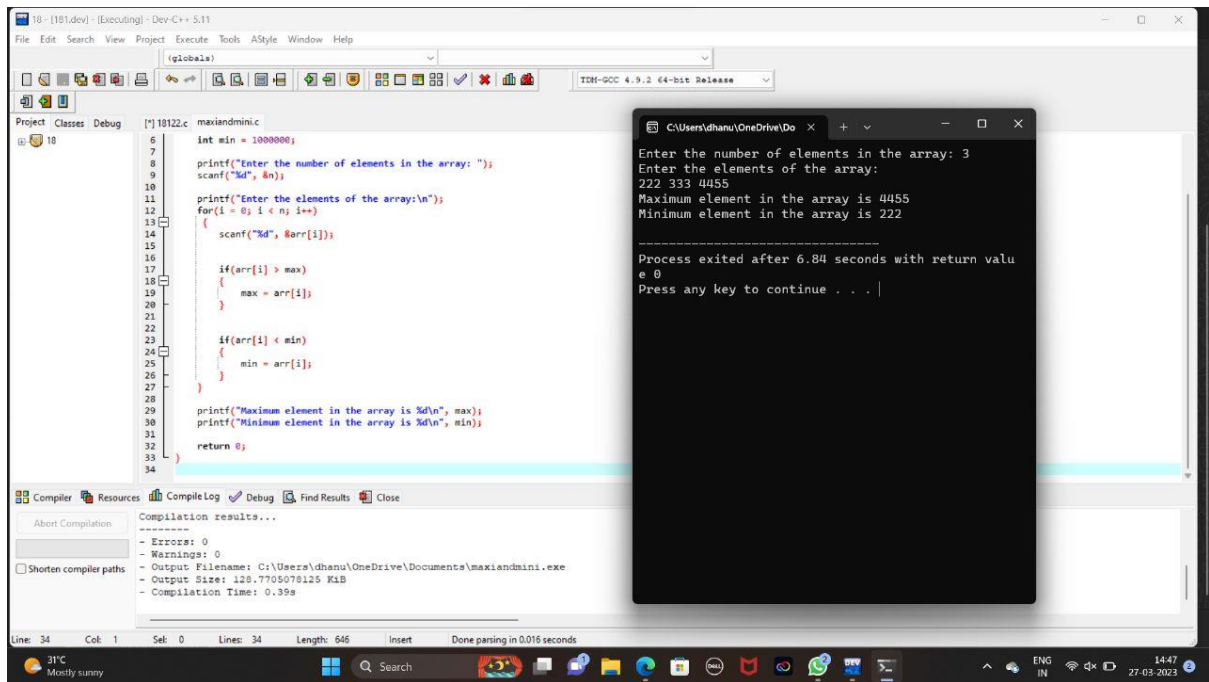


16.)CHQ4

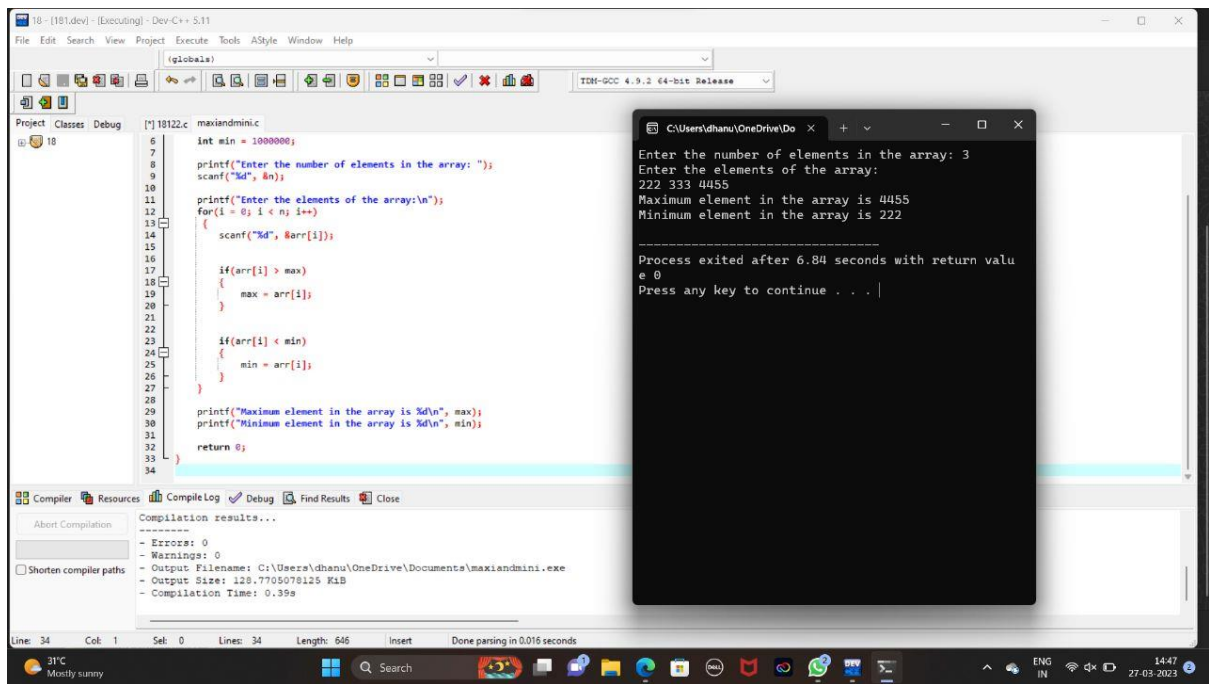


17.)CHQ11

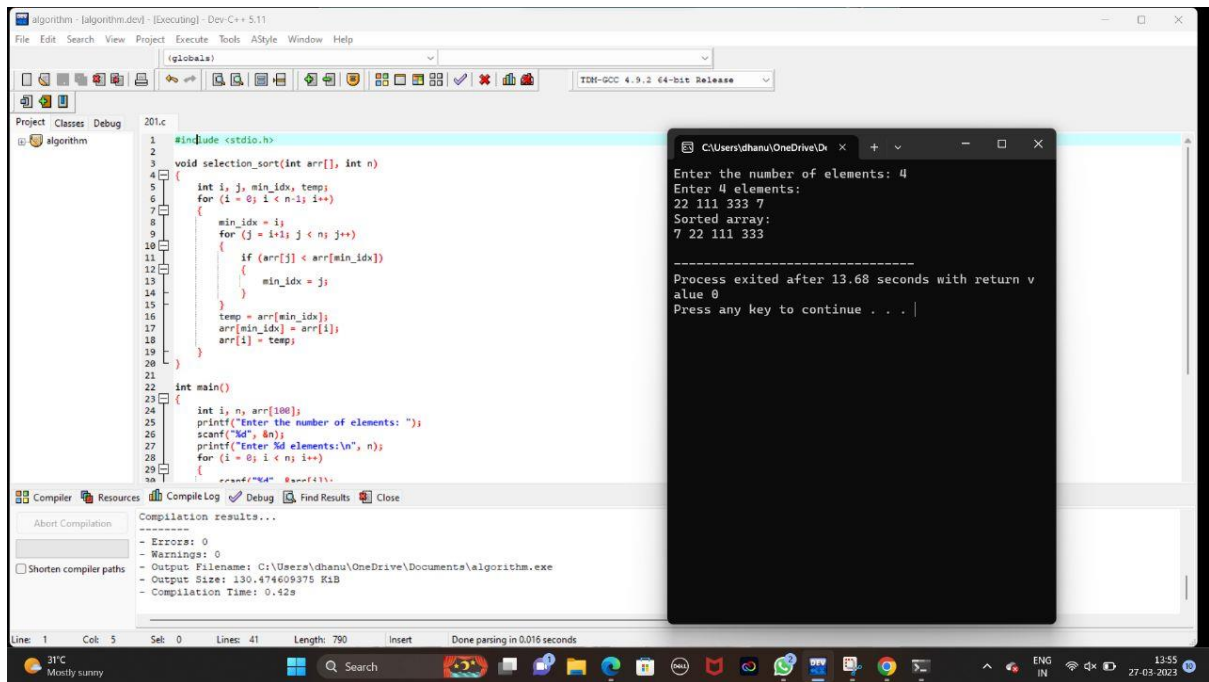




18.)CHQ11



19.)



## 20.)CHQ10

