

**Fundamentals of Programming**

**Lab Report 03**

**1<sup>st</sup> SEMESTER**



**Session: ME-15**

**Section: C**

**SUBMITTED BY**

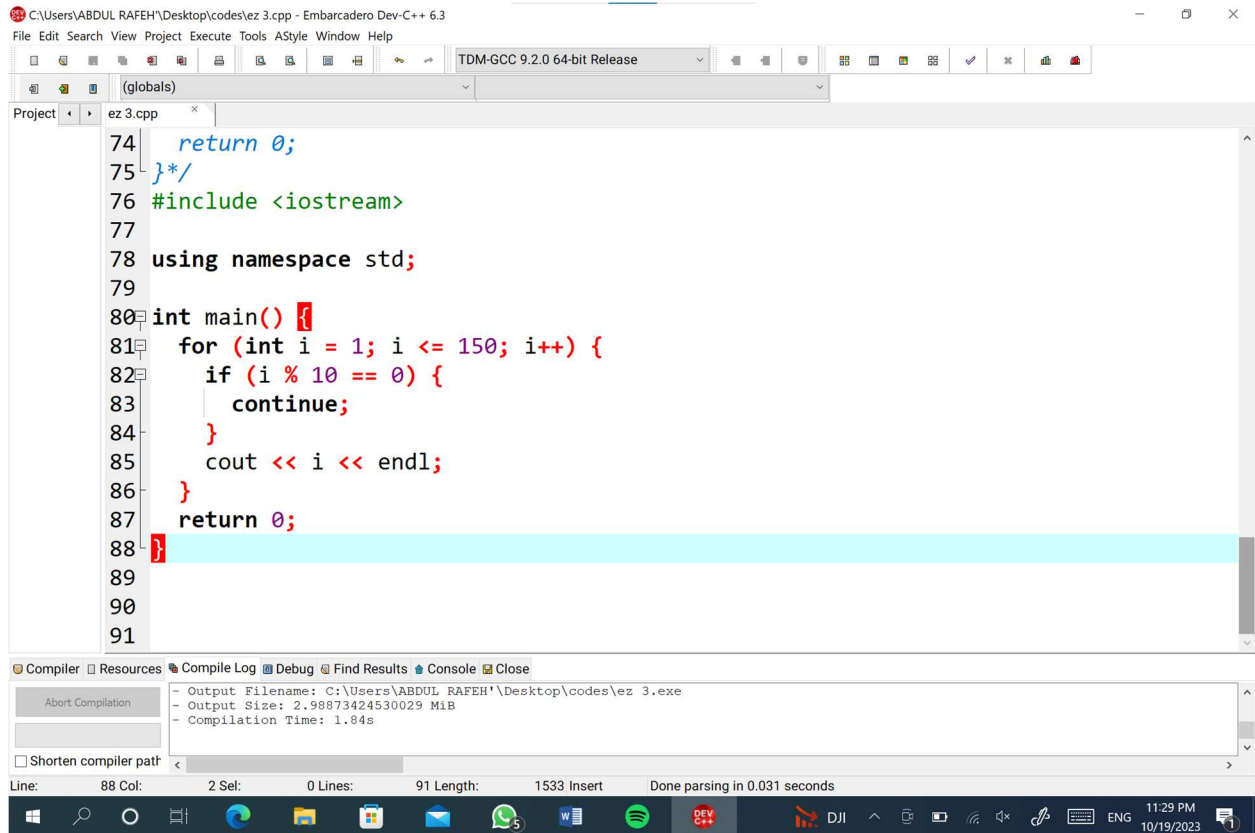
**ABDUL RAFEH**

**417648**

**School of Mechanical and Manufacturing Engineering**

## LAB MANUAL 3

### • PROGRAM 1:



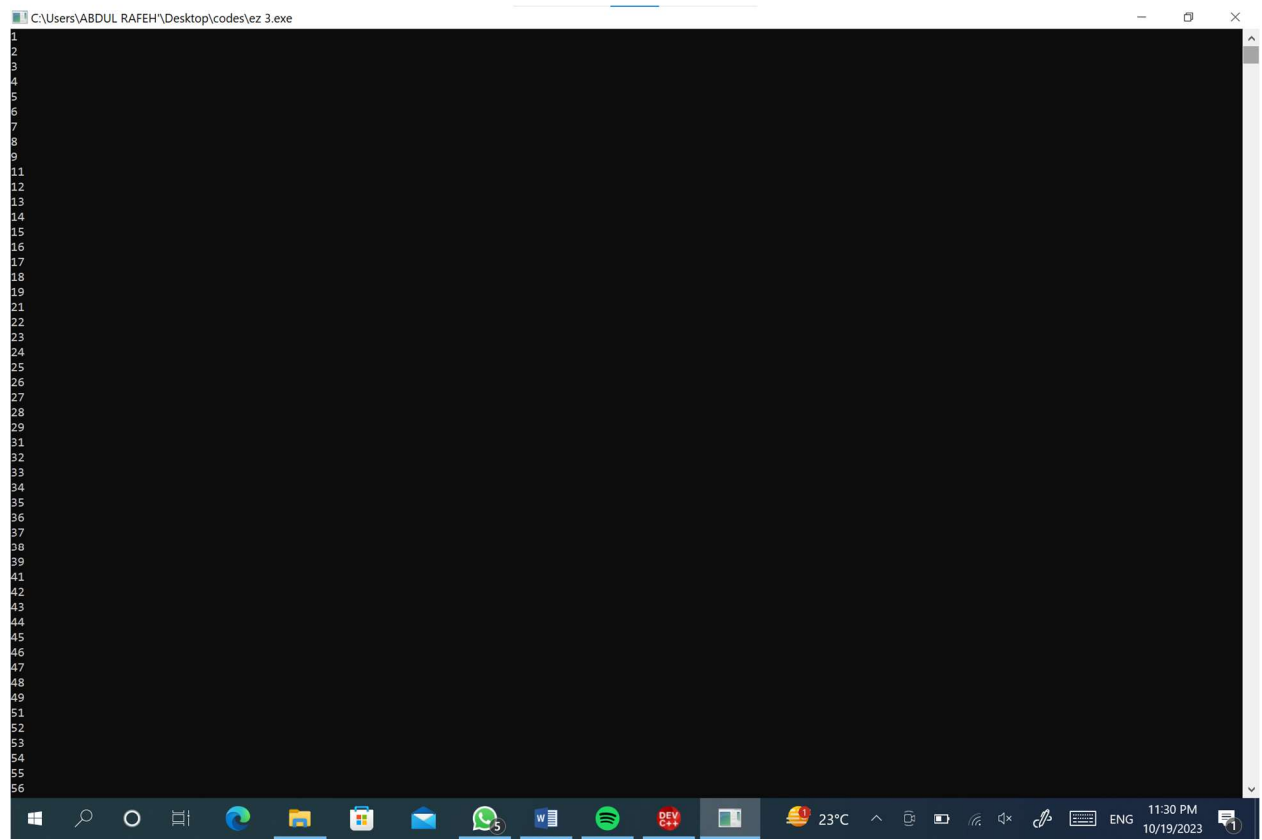
The screenshot shows an IDE window titled "C:\Users\ABDUL RAFAH\Desktop\codes\ez 3.cpp - Embarcadero Dev-C++ 6.3". The menu bar includes File, Edit, Search, View, Project, Execute, Tools, AStyle, Window, and Help. The toolbar shows various icons for file operations and compilation. The compiler is set to "TDM-GCC 9.2.0 64-bit Release". The project is named "globals". The code in "ez 3.cpp" is as follows:

```
74     return 0;
75 }*/
76 #include <iostream>
77
78 using namespace std;
79
80 int main() {
81     for (int i = 1; i <= 150; i++) {
82         if (i % 10 == 0) {
83             continue;
84         }
85         cout << i << endl;
86     }
87     return 0;
88 }
89
90
91
```

The compiler output shows:

```
Compiler  Resources  Compile Log  Debug  Find Results  Console  Close
- Output Filename: C:\Users\ABDUL RAFAH\Desktop\codes\ez 3.exe
- Output Size: 2.98873424530029 MiB
- Compilation Time: 1.84s
```

The status bar at the bottom indicates: Line: 88 Col: 2 Sel: 0 Lines: 91 Length: 1533 Insert Done parsing in 0.031 seconds. The Windows taskbar at the bottom shows the time as 11:29 PM on 10/19/2023.



```
C:\Users\ABDUL RAFEH\Desktop\codes\ez 3.exe
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-----
Process exited after 0.421 seconds with return value 0
Press any key to continue . . .
```

## **PROGRAM 2:**

C:\Users\ABDUL RAFEH\Desktop\codes\vez 3.cpp - Embarcadero Dev-C++ 6.3

File Edit Search View Project Execute Tools AStyle Window Help

TDM-GCC 9.2.0 64-bit Release

(globals)

Project ez 3.cpp

```
87     return 0;
88 }*/
89
90 #include <iostream>
91
92 using namespace std;
93
94 int main() {
95     int n, sum = 0;
96     cout << "Enter a number: ";
97     cin >> n;
98
99     while (n > 0) {
100         sum += n % 10;
101         n /= 10;
102     }
103
104     cout << "The sum of digits of " << n << " is " << sum << endl;
105
106     return 0;
107 }
108
109
```

Compiler Resources Compile Log Debug Find Results Console Close

Abort Compilation

- Output Filename: C:\Users\ABDUL RAFEH\Desktop\codes\vez 3.exe  
- Output Size: 2.98873424530029 MiB  
- Compilation Time: 1.38s

Shorten compiler path

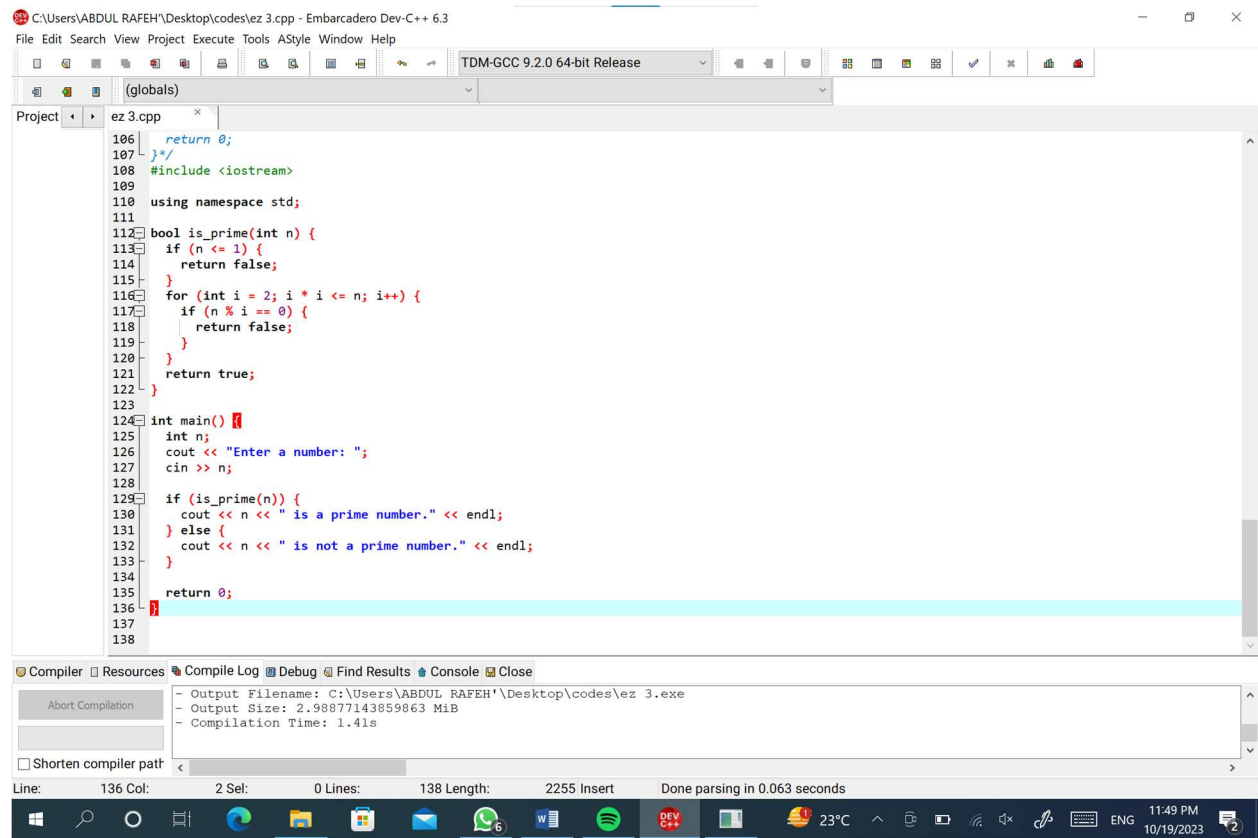
Line: 107 Col: 2 Sel: 0 Lines: 109 Length: 1803 Insert Done parsing in 0.047 seconds

C:\Users\ABDUL RAFEH\Desktop\codes\vez 3.exe

```
Enter a number: 432
The sum of digits of 0 is 9

-----
Process exited after 3.772 seconds with return value 0
Press any key to continue . . .
```

## PROGRAM 3:



The screenshot shows a C++ program in an IDE. The program defines a function `is_prime` that checks if a number `n` is prime. It uses a loop from 2 to `n` to find divisors. The `main` function prompts the user to enter a number and prints whether it is a prime number. The program has been compiled successfully, as shown in the console output.

```
106     return 0;
107 }
108 #include <iostream>
109
110 using namespace std;
111
112 bool is_prime(int n) {
113     if (n <= 1) {
114         return false;
115     }
116     for (int i = 2; i * i <= n; i++) {
117         if (n % i == 0) {
118             return false;
119         }
120     }
121     return true;
122 }
123
124 int main() {
125     int n;
126     cout << "Enter a number: ";
127     cin >> n;
128
129     if (is_prime(n)) {
130         cout << n << " is a prime number." << endl;
131     } else {
132         cout << n << " is not a prime number." << endl;
133     }
134
135     return 0;
136 }
137
138
```

Compiler Output:

```
- Output Filename: C:\Users\ABDUL RAFAH\Desktop\codes\ez 3.exe
- Output Size: 2.98877143859863 MiB
- Compilation Time: 1.41s
```

Line: 136 Col: 2 Sel: 0 Lines: 138 Length: 2255 Insert Done parsing in 0.063 seconds

## OUTPUT:

```
C:\Users\ABDUL RAFEH\Desktop\code\vez 3.exe
Enter a number: 43
43 is a prime number.

-----
Process exited after 8.201 seconds with return value 0
Press any key to continue . . .
```