

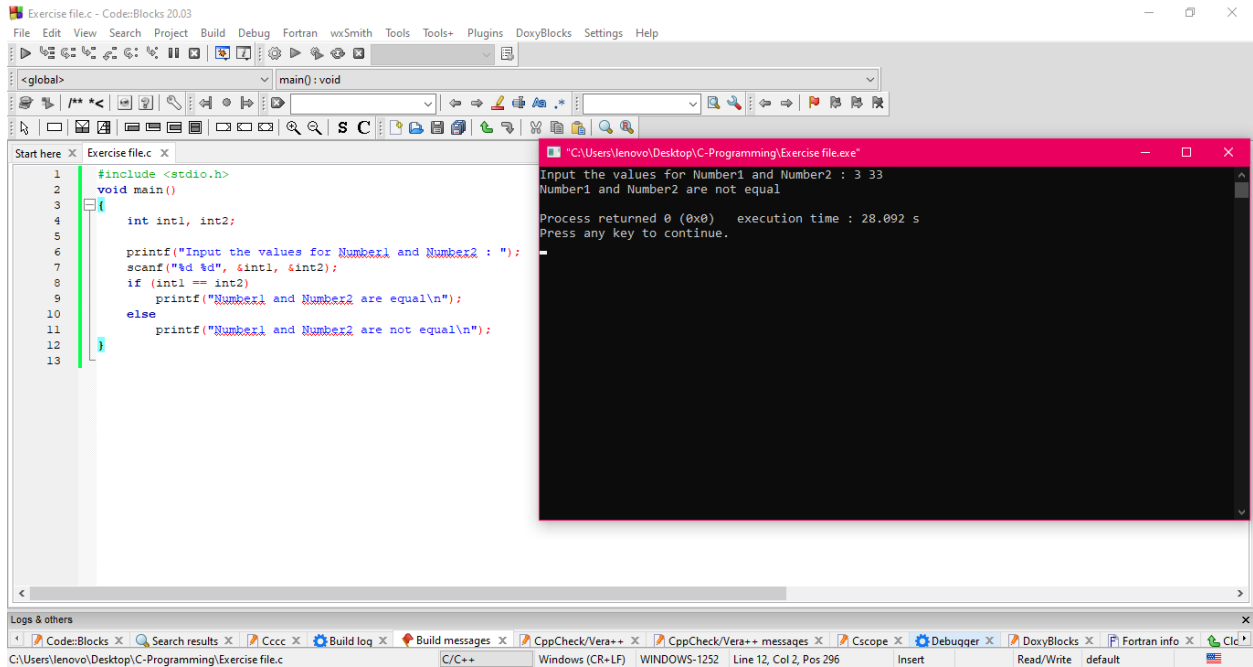
ASSIGNMENT 07

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BRANCH : INFORMATION TECHNOLOGY

1) Write a C program to accept two integers and check whether they are equal or not.



The screenshot shows the Code::Blocks IDE with a C program open. The program prompts the user to input two integers, compares them, and prints whether they are equal or not. The output window shows the execution results for inputs 3 and 33.

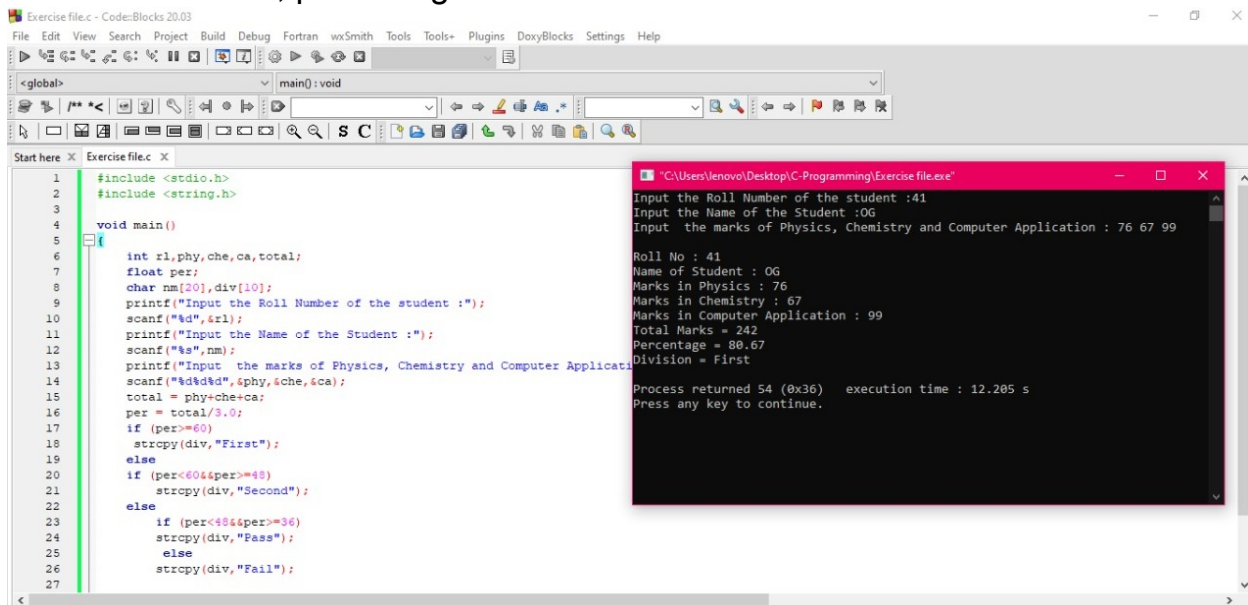
```
1 #include <stdio.h>
2 void main()
3 {
4     int int1, int2;
5
6     printf("Input the values for Number1 and Number2 : ");
7     scanf("%d %d", &int1, &int2);
8     if (int1 == int2)
9         printf("Number1 and Number2 are equal\n");
10    else
11        printf("Number1 and Number2 are not equal\n");
12 }
13
```

Output Window:

```
Input the values for Number1 and Number2 : 3 33
Number1 and Number2 are not equal

Process returned 0 (0x0)   execution time : 28.092 s
Press any key to continue.
```

2) Write a C program to read roll no, name and marks of three subjects and calculate the total, percentage and division.



The image shows a screenshot of the Code::Blocks IDE with a C program open and its execution output displayed in a separate window.

Code::Blocks IDE - Exercise file.c

```
1  #include <stdio.h>
2  #include <string.h>
3
4  void main()
5  {
6      int rl,phy,che,ca,total;
7      float per;
8      char nm[20],div[10];
9      printf("Input the Roll Number of the student :");
10     scanf("%d",&rl);
11     printf("Input the Name of the Student :");
12     scanf("%s",nm);
13     printf("Input the marks of Physics, Chemistry and Computer Application :");
14     scanf("%d%d%d",&phy,&che,&ca);
15     total = phy+che+ca;
16     per = total/3.0;
17     if (per>=60)
18         strcpy(div,"First");
19     else
20         if (per<60&&per>=48)
21             strcpy(div,"Second");
22         else
23             if (per<48&&per>=36)
24                 strcpy(div,"Pass");
25             else
26                 strcpy(div,"Fail");
27 }
```

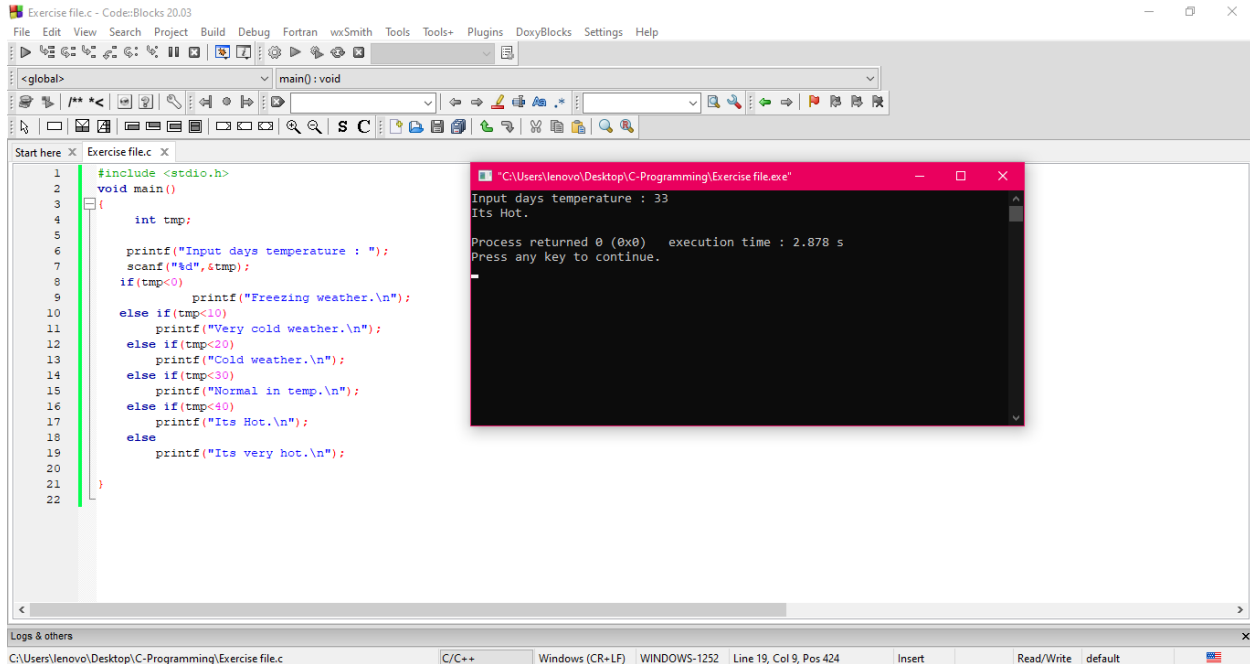
Execution Output (C:\Users\lenovo\Desktop\C-Programming\Exercise file.exe)

```
Input the Roll Number of the student :41
Input the Name of the Student :OG
Input the marks of Physics, Chemistry and Computer Application : 76 67 99

Roll No : 41
Name of Student : OG
Marks in Physics : 76
Marks in Chemistry : 67
Marks in Computer Application : 99
Total Marks = 242
Percentage = 80.67
Division = First

Process returned 54 (0x36)   execution time : 12.205 s
Press any key to continue.
```

3) Write a C program to read temperature in centigrade and display a suitable message according to temperature state below : Temp < 0 then Freezing weather Temp 0-10 then Very Cold weather Temp 10-20 then Cold weather Temp 20-30 then Normal in Temp Temp 30-40 then Its Hot Temp >=40 then Its Very Hot Test Data : 42 Expected Output : Its very hot.



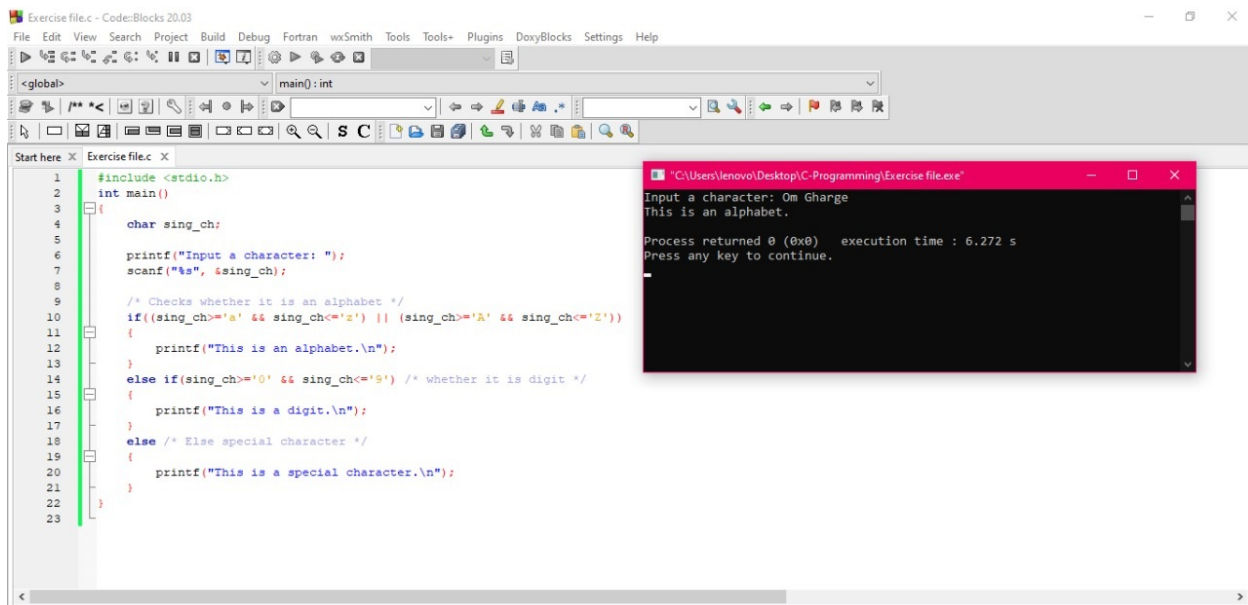
The screenshot shows the Code::Blocks IDE with a C program open. The program is designed to read a temperature value and output a corresponding weather description based on the following ranges: Temp < 0 (Freezing), 0 ≤ Temp < 10 (Very cold), 10 ≤ Temp < 20 (Cold), 20 ≤ Temp < 30 (Normal), 30 ≤ Temp < 40 (Its Hot), and Temp ≥ 40 (Its very hot). The test data provided is 42, which results in the output "Its very hot".

```
1  #include <stdio.h>
2  void main()
3  {
4      int tmp;
5
6      printf("Input days temperature : ");
7      scanf("%d",&tmp);
8      if(tmp<0) printf("Freezing weather.\n");
9      else if(tmp<10) printf("Very cold weather.\n");
10     else if(tmp<20) printf("Cold weather.\n");
11     else if(tmp<30) printf("Normal in temp.\n");
12     else if(tmp<40) printf("Its Hot.\n");
13     else printf("Its very hot.\n");
14 }
15
16
17
18
19
20
21
22
```

The execution window shows the following output:

```
Input days temperature : 33
Its Hot.
Process returned 0 (0x0)   execution time : 2.878 s
Press any key to continue.
```

4) Write a C program to check whether a character is an alphabet, digit or special character.



The screenshot shows the Code::Blocks IDE with a C program open. The program checks if a character is an alphabet, digit, or special character. The execution window shows the program running successfully with the input 'Om Gharge' and output 'This is an alphabet.'.

```
1 #include <stdio.h>
2 int main()
3 {
4     char sing_ch;
5
6     printf("Input a character: ");
7     scanf("%s", &sing_ch);
8
9     /* Checks whether it is an alphabet */
10    if((sing_ch>='a' && sing_ch<='z') || (sing_ch>='A' && sing_ch<='Z'))
11    {
12        printf("This is an alphabet.\n");
13    }
14    else if(sing_ch>='0' && sing_ch<='9') /* whether it is digit */
15    {
16        printf("This is a digit.\n");
17    }
18    else /* Else special character */
19    {
20        printf("This is a special character.\n");
21    }
22 }
23
```

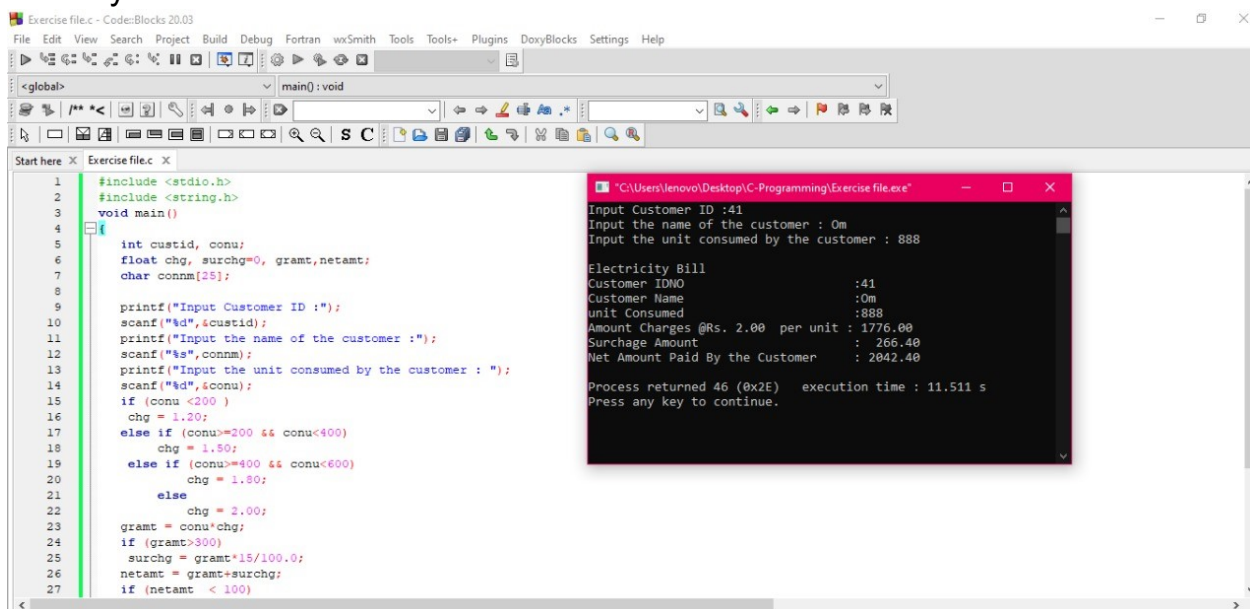
Execution Output:

```
Input a character: Om Gharge
This is an alphabet.
Process returned 0 (0x0)   execution time : 6.272 s
Press any key to continue.
```

5) Write a program in C to calculate and print the Electricity bill of a given customer. The customer id., name and unit consumed by the user should be taken from the keyboard and display the total amount to pay to the customer. The charge are as follow

Unit upto 199 200 and above but less than 400 400 and above but less than 600
Charge/unit @1.20 @1.50 @1.80600 and above @2.00

If bill exceeds Rs. 400 then a surcharge of 15% will be charged and the minimum bill should be of Rs. 100/Test Data : 1001 James 800 Expected Output :
Customer IDNO :1001 Customer Name :James unit Consumed :800 Amount
Charges @Rs. 2.00 per unit : 1600.00 Surcharge Amount : 240.00 Net Amount
Paid By the Customer : 1840.00



The screenshot shows the Code::Blocks IDE with a C program for calculating an electricity bill. The program prompts for customer ID, name, and units consumed, then calculates the bill based on tiered rates and a 15% surcharge for bills over Rs. 400. A separate window shows the program's execution with test data: Customer ID 41, Name Om, and 888 units consumed, resulting in a net amount of 2842.40.

```
1 #include <stdio.h>
2 #include <string.h>
3 void main()
4 {
5     int custid, conu;
6     float chg, surchg=0, grant, netamt;
7     char connm[25];
8
9     printf("Input Customer ID :");
10    scanf("%d", &custid);
11    printf("Input the name of the customer :");
12    scanf("%s", connm);
13    printf("Input the unit consumed by the customer : ");
14    scanf("%d", &conu);
15    if (conu < 200)
16        chg = 1.20;
17    else if (conu >= 200 && conu < 400)
18        chg = 1.50;
19    else if (conu >= 400 && conu < 600)
20        chg = 1.80;
21    else
22        chg = 2.00;
23    grant = conu * chg;
24    if (grant > 300)
25        surchg = grant * 15 / 100.0;
26    netamt = grant + surchg;
27    if (netamt < 100)
```

```
Input Customer ID :41
Input the name of the customer : Om
Input the unit consumed by the customer : 888

Electricity Bill
Customer IDNO          :41
Customer Name          :Om
Unit Consumed          :888
Amount Charges @Rs. 2.00 per unit : 1776.00
Surcharge Amount       : 266.40
Net Amount Paid By the Customer : 2042.40

Process returned 46 (0x2E)   execution time : 11.511 s
Press any key to continue.
```

6) Write a program in C which is a Menu-Driven Program to compute the area of the various geometrical shape.

The screenshot displays the Code::Blocks IDE with a C program for calculating the area of geometric shapes. The source code is as follows:

```
1 #include <stdio.h>
2 void main ()
3 {
4     int choice,r,l,w,b,h;
5     float area;
6     printf("Input 1 for area of circle\n");
7     printf("Input 2 for area of rectangle\n");
8     printf("Input 3 for area of triangle\n");
9     printf("Input your choice : ");
10    scanf("%d",&choice);
11    switch(choice)
12    {
13        case 1:
14            printf("Input radius of the circle : ");
15            scanf("%d",&r);
16            area=3.14*r*r;
17            break;
18        case 2:
19            printf("Input length and width of the rectangle : ");
20            scanf("%d%d",&l,&w);
21            area=l*w;
22            break;
23        case 3:
24            printf("Input the base and hight of the triangle :");
25            scanf("%d%d",&b,&h);
26            area=.5*b*h;
27            break;
28    }
29    printf("The area is : %f\n",area);
30 }
```

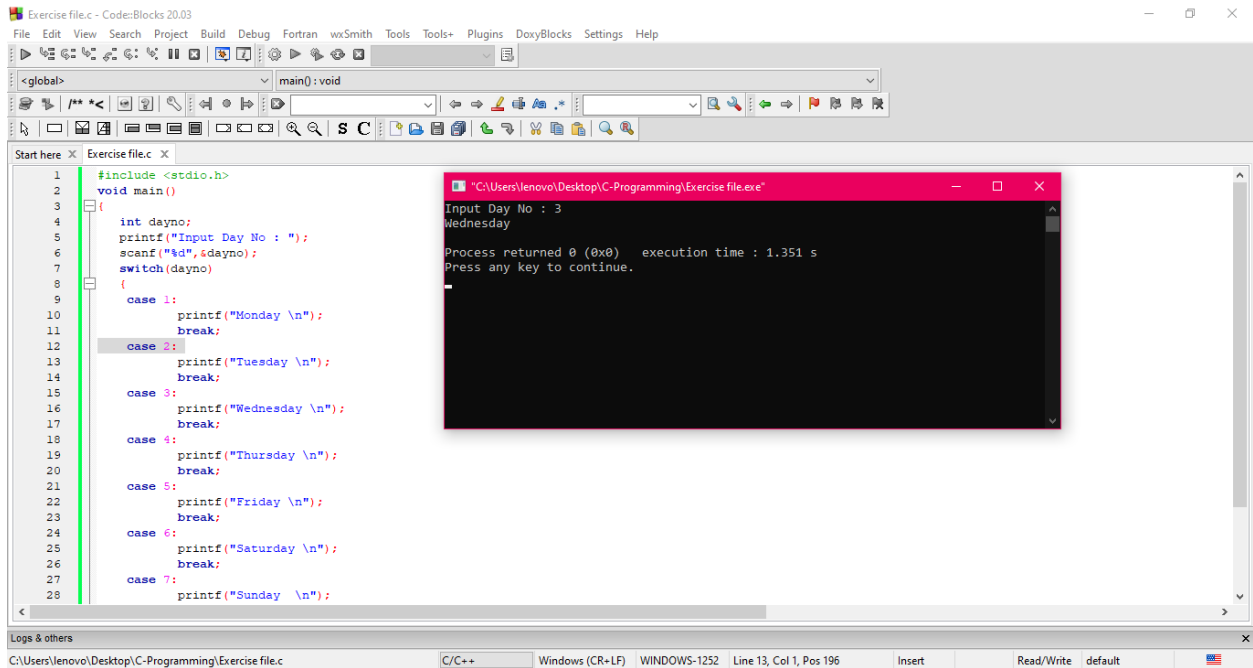
The execution output window shows the following interaction:

```
Input 1 for area of circle
Input 2 for area of rectangle
Input 3 for area of triangle
Input your choice : 1
Input radius of the circle : 8
The area is : 200.960007

Process returned 25 (0x19)   execution time : 15.795 s
Press any key to continue.
```

The status bar at the bottom indicates the file path: C:\Users\lenovo\Desktop\C-Programming\Exercise file.c, and the current cursor position: Line 3, Col 28, Pos 61.

7) Write a program in C to read any day number in integer and display day name in the word.



The screenshot shows the Code::Blocks IDE with a C program open in the editor. The program is titled "Exercise file.c" and contains the following code:

```
1 #include <stdio.h>
2 void main()
3 {
4     int dayno;
5     printf("Input Day No : ");
6     scanf("%d", &dayno);
7     switch(dayno)
8     {
9         case 1:
10            printf("Monday \n");
11            break;
12        case 2:
13            printf("Tuesday \n");
14            break;
15        case 3:
16            printf("Wednesday \n");
17            break;
18        case 4:
19            printf("Thursday \n");
20            break;
21        case 5:
22            printf("Friday \n");
23            break;
24        case 6:
25            printf("Saturday \n");
26            break;
27        case 7:
28            printf("Sunday \n");
29    }
```

The program is executed, and the output is shown in a separate window titled "C:\Users\lenovo\Desktop\C-Programming\Exercise file.exe". The output displays the input day number 3 and the corresponding day name, Wednesday.

```
Input Day No : 3
Wednesday
Process returned 0 (0x0)   execution time : 1.351 s
Press any key to continue.
```

The status bar at the bottom of the IDE shows the file path "C:\Users\lenovo\Desktop\C-Programming\Exercise file.c", the compiler "C/C++", the window title "Windows (CR+LF)", the window ID "WINDOWS-1252", the current line and column "Line 13, Col 1, Pos 196", the editor mode "Insert", the encoding "Read/Write", the theme "default", and the language "C++".

8) Write a program in C which is a Menu-Driven Program to perform a simple calculation.

The screenshot shows the Code::Blocks IDE with a C program open in the editor and its execution output in a separate window.

Code::Blocks IDE - Exercise file.c

```
1 #include <stdio.h>
2 void main() {
3     int num1, num2, opt;
4     printf("Enter the first Integer :");
5     scanf("%d", &num1);
6     printf("Enter the second Integer :");
7     scanf("%d", &num2);
8
9     printf("\nInput your option :\n");
10    printf("1-Addition.\n2-Substraction.\n3-Multiplication.\n4-Division.\n5-Exit.\n");
11    scanf("%d", &opt);
12    switch(opt) {
13        case 1:
14            printf("The Addition of %d and %d is: %d\n", num1, num2, num1+num2);
15            break;
16
17        case 2:
18            printf("The Substraction of %d and %d is: %d\n", num1, num2, num1-num2);
19            break;
20
21        case 3:
22            printf("The Multiplication of %d and %d is: %d\n", num1, num2, num1*num2);
23            break;
24
25        case 4:
26            if(num2==0) {
27                printf("The second integer is zero. Divide by zero.\n");
28            } else {
```

Execution Output (C:\Users\lenovo\Desktop\C-Programming\Exercise file.exe)

```
Enter the first Integer :3
Enter the second Integer :8

Input your option :
1-Addition.
2-Substraction.
3-Multiplication.
4-Division.
5-Exit.
3
The Multiplication of 3 and 8 is: 24

Process returned 38 (0x26)   execution time : 11.084 s
Press any key to continue.
```

The IDE status bar at the bottom shows the file path: C:\Users\lenovo\Desktop\C-Programming\Exercise file.c, the language: C/C++, and the window title: Windows (CR+LF).

9) Write a program in C to read any digit, display in the word.

The screenshot shows the Code::Blocks IDE with a C program named 'Exercise file.c'. The program uses a switch statement to convert a digit (0-9) into its corresponding word. The code is as follows:

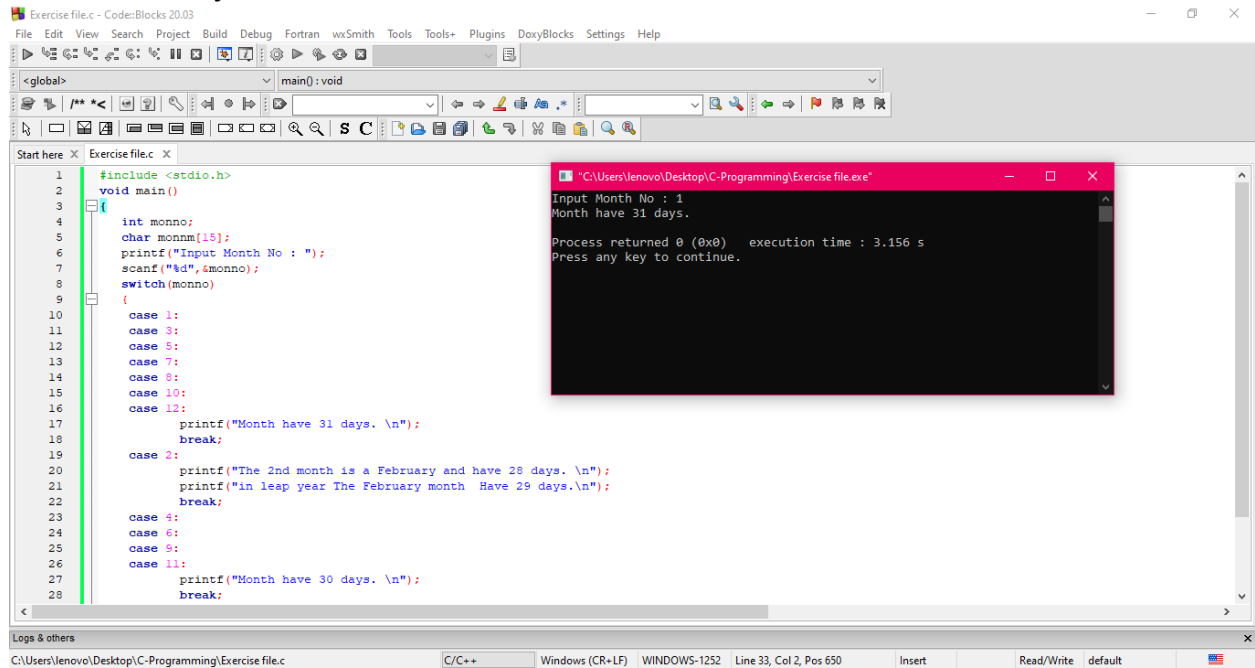
```
1  #include <stdio.h>
2  void main()
3  {
4      int cdigit;
5
6      printf("Input Digit(0-9) : ");
7      scanf("%d",&cdigit);
8      switch(cdigit)
9      {
10         case 0:
11             printf("Zero\n");
12             break;
13
14         case 1:
15             printf("One\n");
16             break;
17         case 2:
18             printf("Two\n");
19             break;
20         case 3:
21             printf("Three\n");
22             break;
23         case 4:
24             printf("Four\n");
25             break;
26         case 5:
27             printf("Five\n");
28             break;
```

The program was executed, and the output window shows the following text:

```
"C:\Users\lenovo\Desktop\C-Programming\Exercise file.exe"
Input Digit(0-9) : 8
Eight
Process returned 0 (0x0)   execution time : 1.471 s
Press any key to continue.
```

The status bar at the bottom indicates the file path 'C:\Users\lenovo\Desktop\C-Programming\Exercise file.c', the compiler 'C/C++', and the current line and column 'Line 45, Col 2, Pos 771'.

10) Write a program in C to read any Month Number in integer and display the number of days for this month.



The screenshot shows the Code::Blocks IDE with a C program open. The program is designed to read a month number and display the number of days for that month. The source code is as follows:

```
1 #include <stdio.h>
2 void main()
3 {
4     int monno;
5     char monnm[15];
6     printf("Input Month No : ");
7     scanf("%d", &monno);
8     switch(monno)
9     {
10        case 1:
11        case 3:
12        case 5:
13        case 7:
14        case 8:
15        case 10:
16        case 12:
17            printf("Month have 31 days. \n");
18            break;
19        case 2:
20            printf("The 2nd month is a February and have 28 days. \n");
21            printf("in leap year The February month Have 29 days.\n");
22            break;
23        case 4:
24        case 6:
25        case 9:
26        case 11:
27            printf("Month have 30 days. \n");
28            break;
```

The execution output window shows the following text:

```
"C:\Users\lenovo\Desktop\C-Programming\Exercise file.exe"
Input Month No : 1
Month have 31 days.

Process returned 0 (0x0)   execution time : 3.156 s
Press any key to continue.
```

The status bar at the bottom indicates the file path is C:\Users\lenovo\Desktop\C-Programming\Exercise file.c, the editor is C/C++, and the current position is Line 33, Col 2, Pos 650.