

Program 1. Type the following code and observe the output to know the working c

```
#include<stdio.h>
```

```
int main()
```

```
{
```

```
    int a=10,b=100;
```

```
    float c=10.5,d=100.5;
```

```
    printf("++a=%d\n",++a);
```

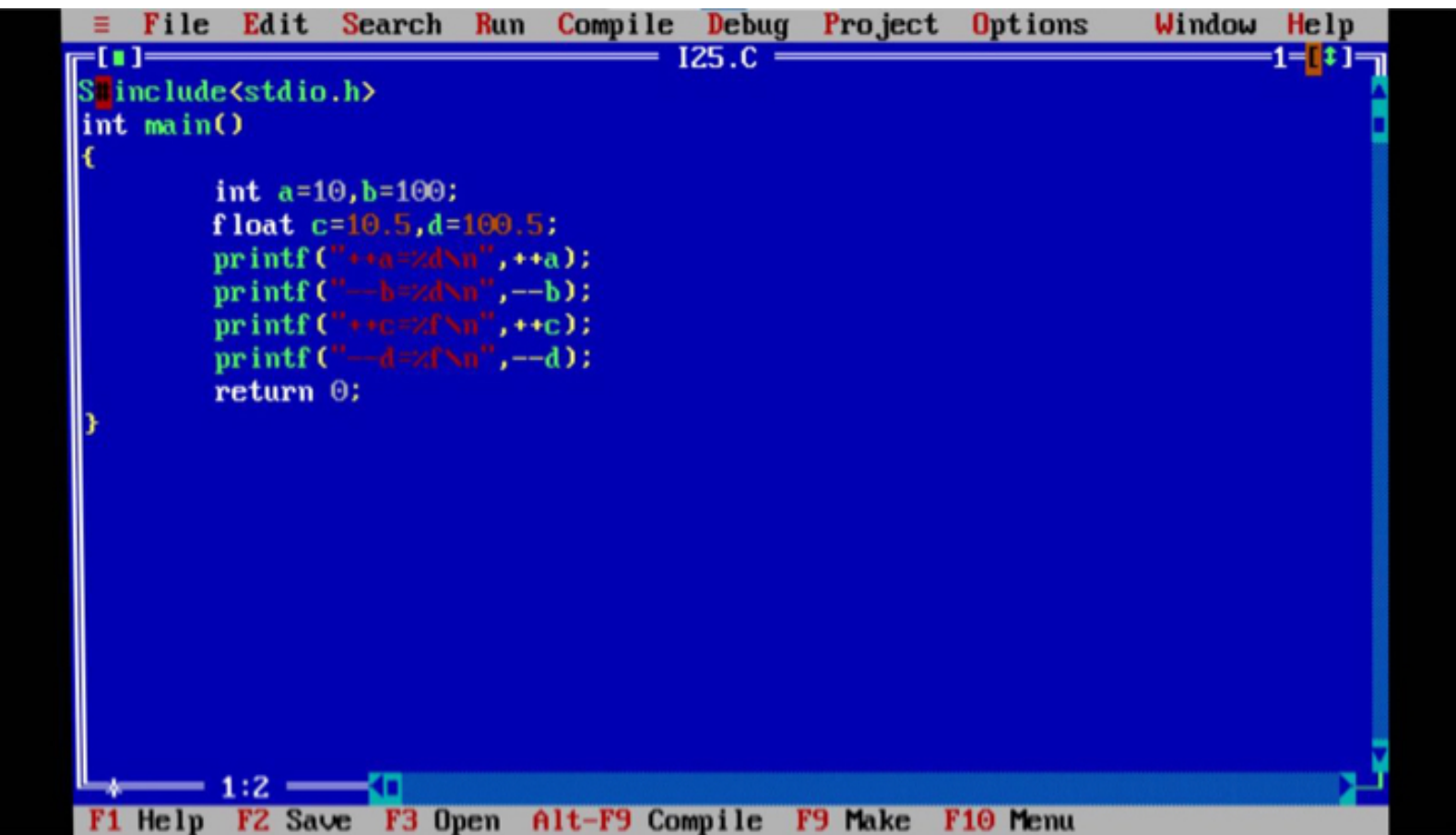
```
    printf("--b=%d\n",--b);
```

```
    printf("++c=%f\n",++c);
```

```
    printf("--d=%f\n",--d);
```

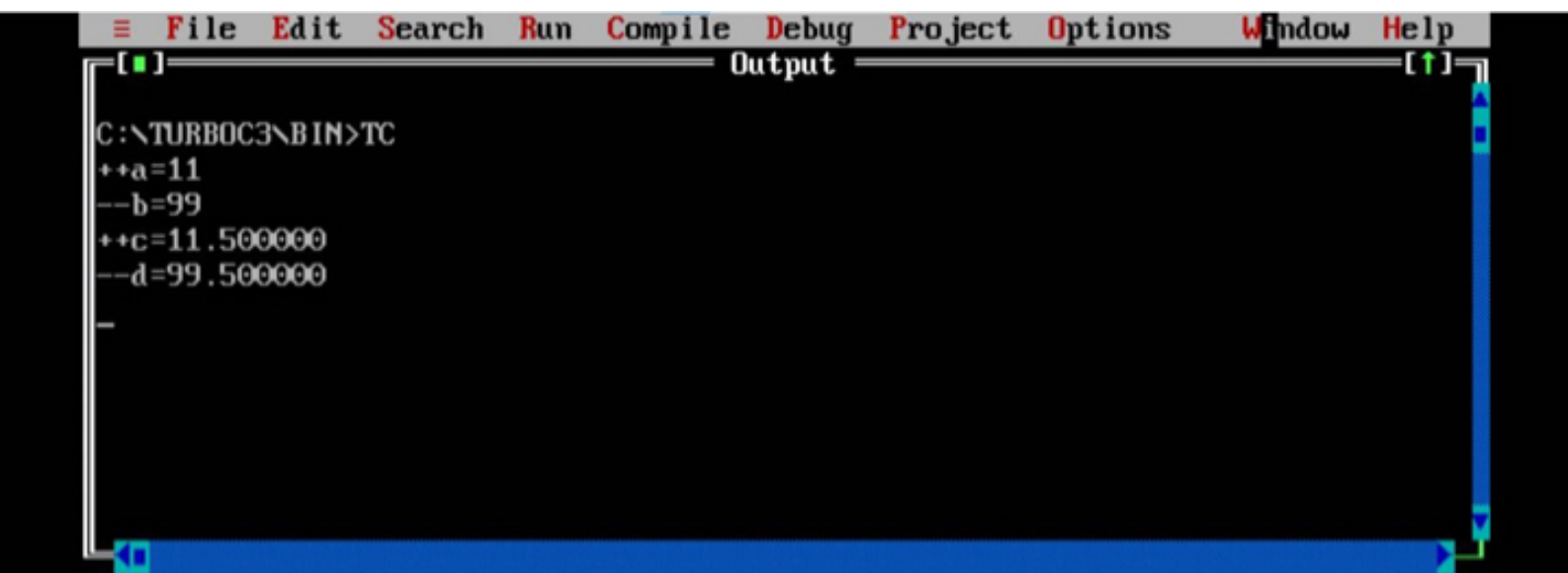
```
    return 0;
```

```
}
```



```
File Edit Search Run Compile Debug Project Options Window Help
I25.C
#include<stdio.h>
int main()
{
    int a=10,b=100;
    float c=10.5,d=100.5;
    printf("++a=%d\n",++a);
    printf("--b=%d\n",--b);
    printf("++c=%f\n",++c);
    printf("--d=%f\n",--d);
    return 0;
}
1:2
F1 Help F2 Save F3 Open Alt-F9 Compile F9 Make F10 Menu
```

# Output

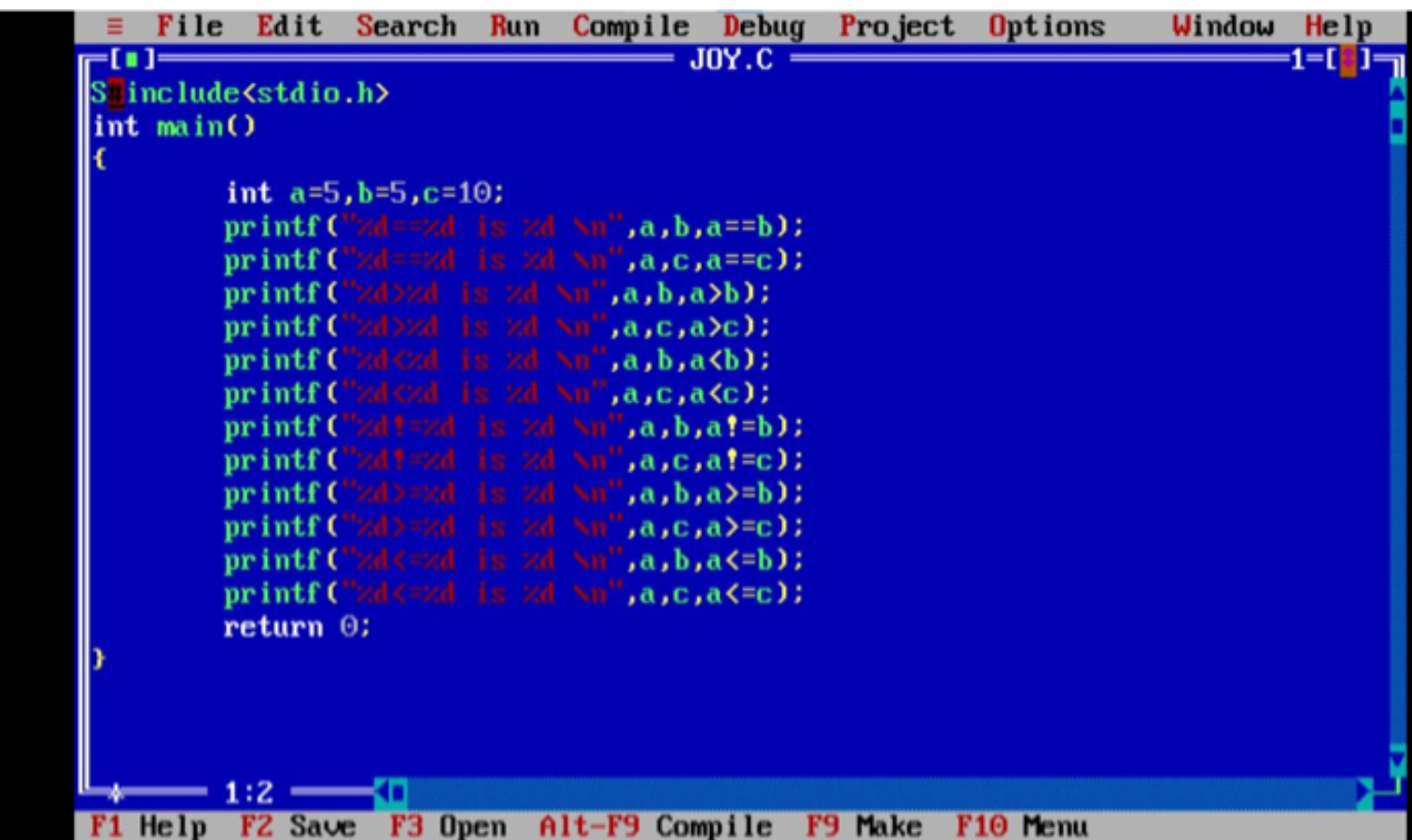


The screenshot shows the Turbo C++ IDE interface. The menu bar at the top includes File, Edit, Search, Run, Compile, Debug, Project, Options, Window, and Help. The 'Output' window is active, displaying the following text:

```
C:\TURBOC3\BIN>TC  
++a=11  
--b=99  
++c=11.500000  
--d=99.500000  
-
```

The output window has a blue border and a green cursor at the bottom left.

## Program 2

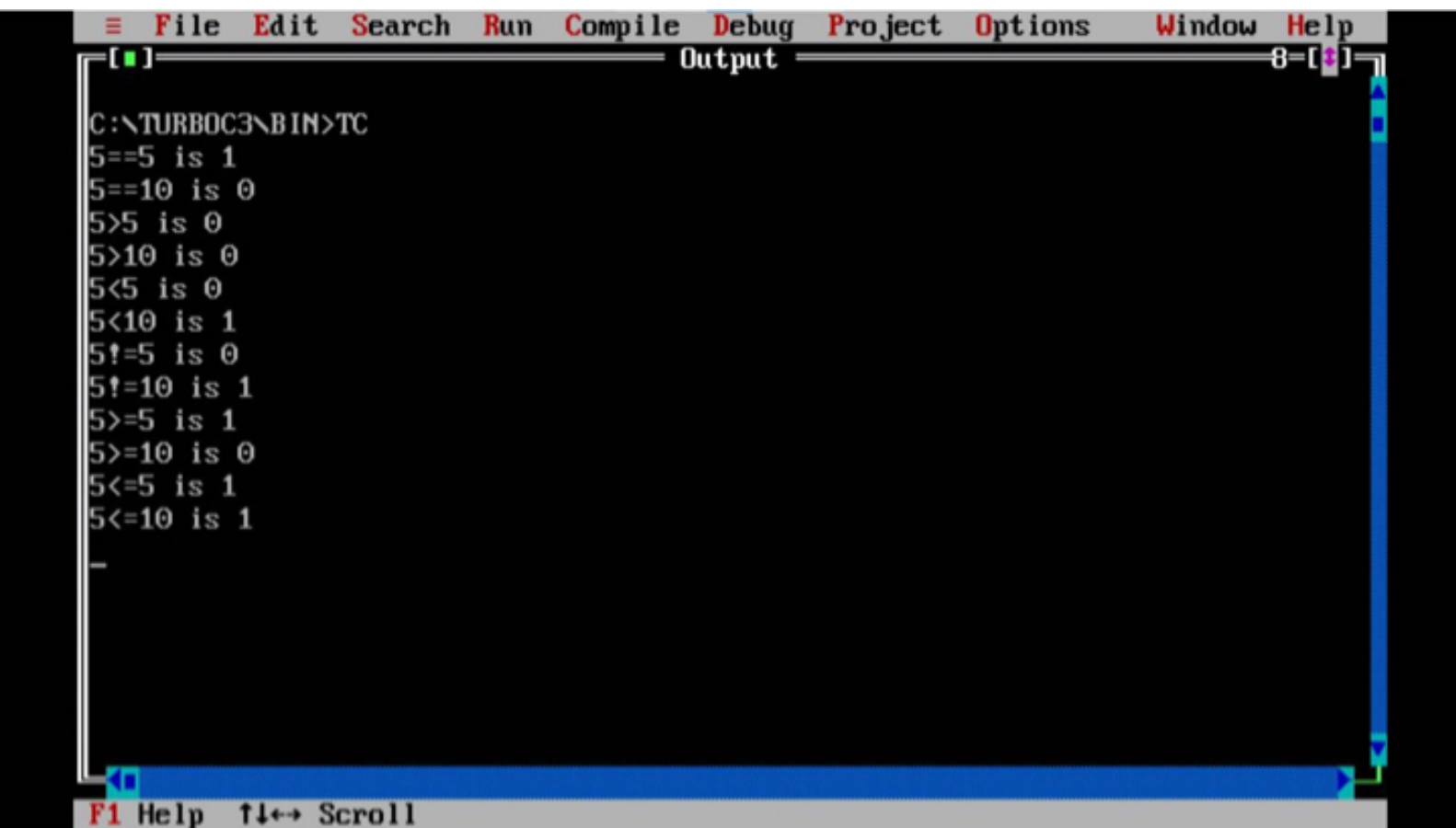


```
File Edit Search Run Compile Debug Project Options Window Help
JOY.C
#include<stdio.h>
int main()
{
    int a=5,b=5,c=10;
    printf("%d==%d is %d \n",a,b,a==b);
    printf("%d==%d is %d \n",a,c,a==c);
    printf("%d>%d is %d \n",a,b,a>b);
    printf("%d>%d is %d \n",a,c,a>c);
    printf("%d<%d is %d \n",a,b,a<b);
    printf("%d<%d is %d \n",a,c,a<c);
    printf("%d!=%d is %d \n",a,b,a!=b);
    printf("%d!=%d is %d \n",a,c,a!=c);
    printf("%d>=%d is %d \n",a,b,a>=b);
    printf("%d>=%d is %d \n",a,c,a>=c);
    printf("%d<=%d is %d \n",a,b,a<=b);
    printf("%d<=%d is %d \n",a,c,a<=c);
    return 0;
}
```

1:2

F1 Help F2 Save F3 Open Alt-F9 Compile F9 Make F10 Menu

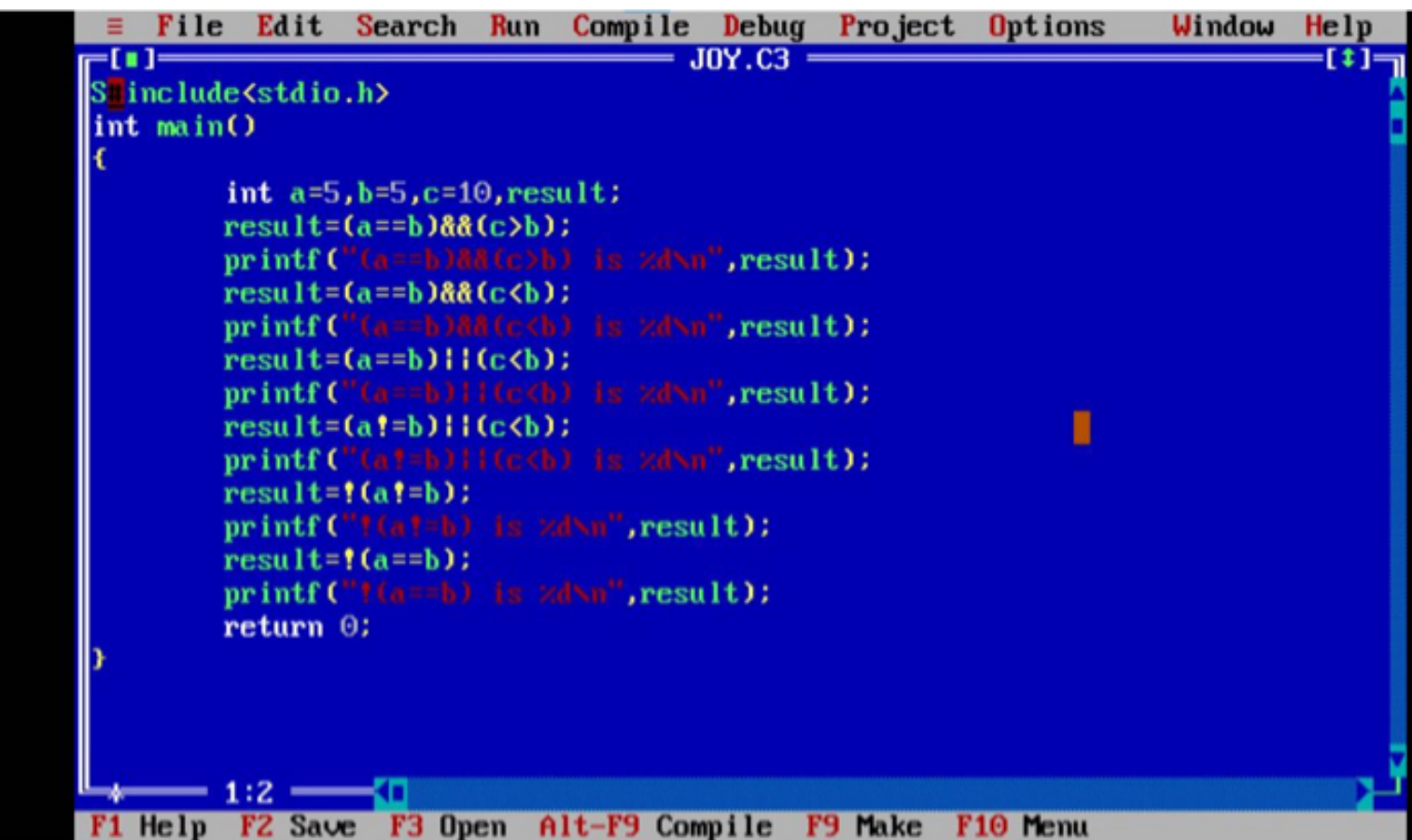
# Output



The screenshot shows the Turbo C++ IDE with the 'Output' window active. The window title is 'Output' and it contains a list of logical expressions and their results. The expressions are: `5==5`, `5==10`, `5>5`, `5>10`, `5<5`, `5<10`, `5!=5`, `5!=10`, `5>=5`, `5>=10`, `5<=5`, and `5<=10`. The results are: 1, 0, 0, 0, 0, 1, 0, 1, 1, 0, 1, and 1 respectively. The window also shows the command prompt path `C:\TURBOC3\BIN>TC` and a status bar at the bottom with `F1 Help` and `↑↓↔ Scroll`.

```
File Edit Search Run Compile Debug Project Options Window Help
Output
C:\TURBOC3\BIN>TC
5==5 is 1
5==10 is 0
5>5 is 0
5>10 is 0
5<5 is 0
5<10 is 1
5!=5 is 0
5!=10 is 1
5>=5 is 1
5>=10 is 0
5<=5 is 1
5<=10 is 1
-
F1 Help ↑↓↔ Scroll
```

## Program 3

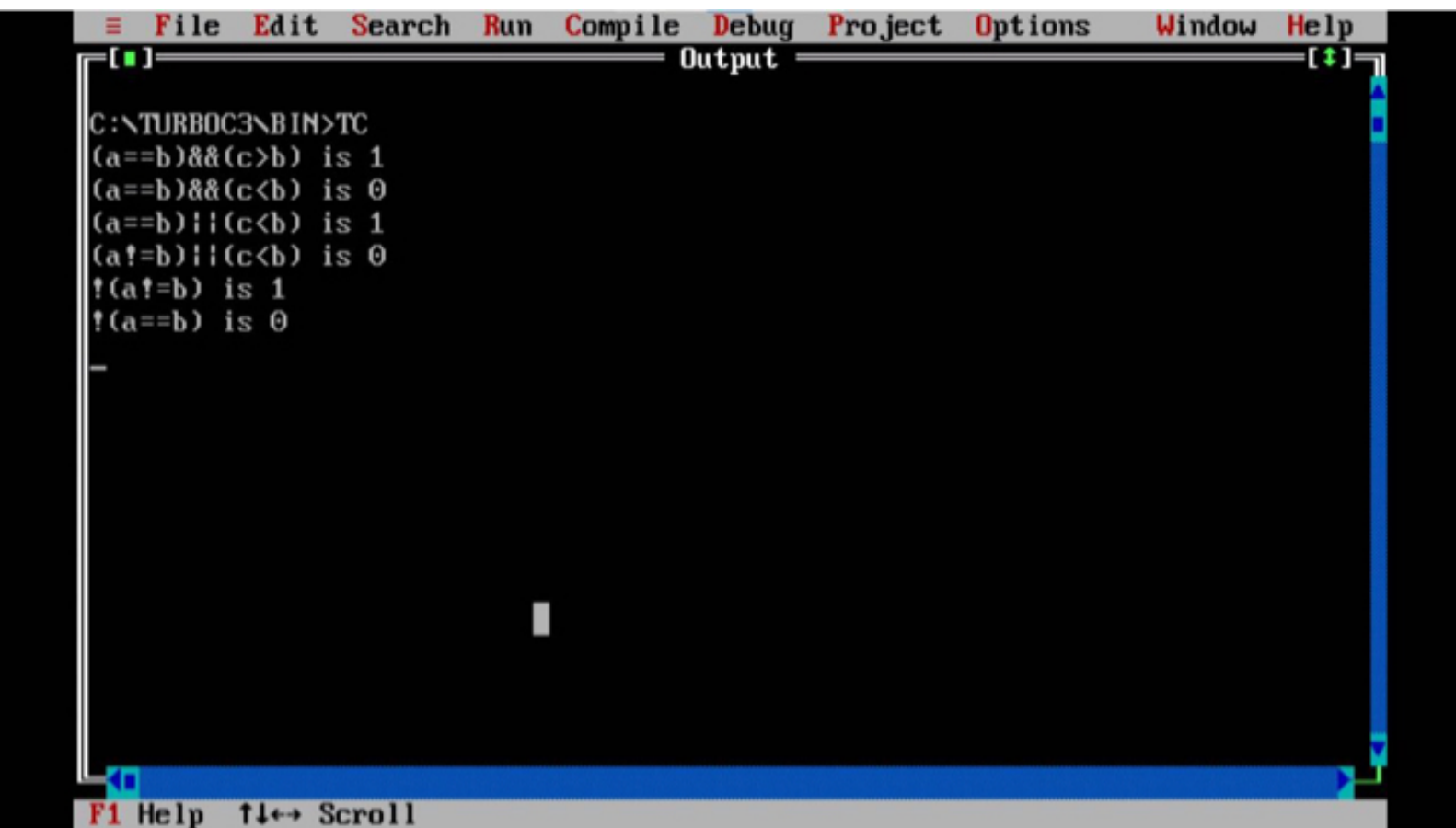


```
File Edit Search Run Compile Debug Project Options Window Help
JOY.C3
#include<stdio.h>
int main()
{
    int a=5,b=5,c=10,result;
    result=(a==b)&&(c>b);
    printf("(a==b)&&(c>b) is %d\n",result);
    result=(a==b)&&(c<b);
    printf("(a==b)&&(c<b) is %d\n",result);
    result=(a==b)||!(c<b);
    printf("(a==b)||!(c<b) is %d\n",result);
    result=(a!=b)||!(c<b);
    printf("(a!=b)||!(c<b) is %d\n",result);
    result=!!(a!=b);
    printf("!!(a!=b) is %d\n",result);
    result=!!(a==b);
    printf("!!(a==b) is %d\n",result);
    return 0;
}
```

1:2

F1 Help F2 Save F3 Open Alt-F9 Compile F9 Make F10 Menu

# Output

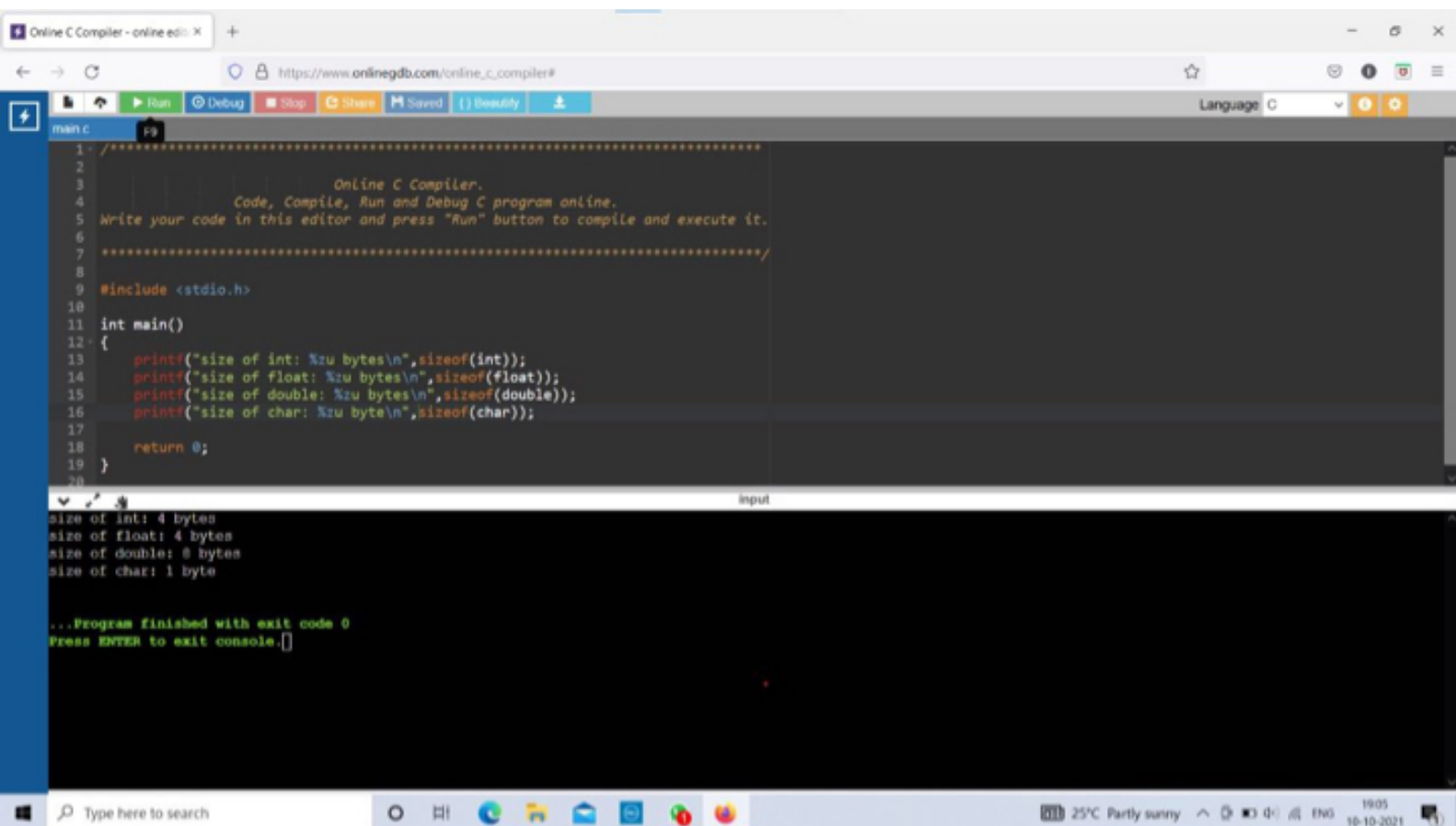


The screenshot shows the Turbo C++ IDE with the 'Output' window active. The menu bar includes File, Edit, Search, Run, Compile, Debug, Project, Options, Window, and Help. The output window displays the results of several logical expressions entered in the command prompt.

```
C:\TURBOC3\BIN>TC
(a==b)&&(c>b) is 1
(a==b)&&(c<b) is 0
(a==b)|| (c<b) is 1
(a!=b)|| (c<b) is 0
!(a!=b) is 1
!(a==b) is 0
-
```

The status bar at the bottom shows 'F1 Help' and '↑↓↔ Scroll'.

Program 4. Write a C program that displays the size of all possible data types in C



The screenshot shows a web browser window with the URL [https://www.onlinegdb.com/online\\_c\\_compiler#](https://www.onlinegdb.com/online_c_compiler#). The browser has tabs for "Online C Compiler - online editor" and "Online C Compiler". The compiler interface includes a toolbar with buttons for Run, Debug, Stop, Share, Saved, and Beautify. The code editor shows a C program that prints the sizes of various data types. The output console shows the results of the program execution.

```
1- /*
2-  * Online C Compiler.
3-  * Code, Compile, Run and Debug C program online.
4-  * Write your code in this editor and press "Run" button to compile and execute it.
5-  */
6-
7- #include <stdio.h>
8-
9- int main()
10- {
11-     printf("size of int: %zu bytes\n", sizeof(int));
12-     printf("size of float: %zu bytes\n", sizeof(float));
13-     printf("size of double: %zu bytes\n", sizeof(double));
14-     printf("size of char: %zu byte\n", sizeof(char));
15-
16-     return 0;
17- }
```

size of int: 4 bytes  
size of float: 4 bytes  
size of double: 8 bytes  
size of char: 1 byte

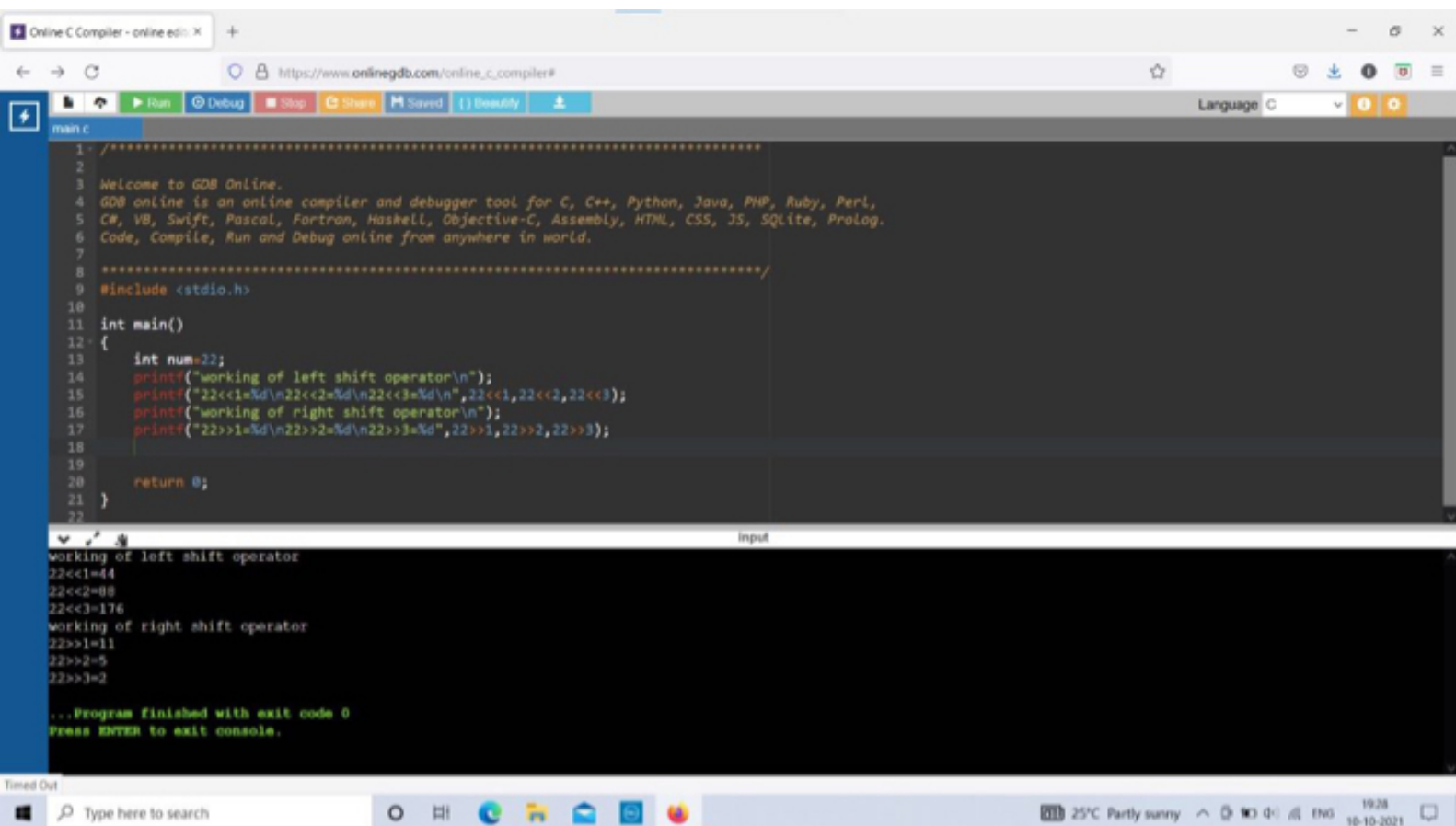
...Program finished with exit code 0  
Press ENTER to exit console.

Program 5. Let the variable num=22.

Show the working of left shift operator on num, i.e. num<<1, num<<2...

Validate the results by writing a program.

Repeat the above to see the working of right shift operator as well.



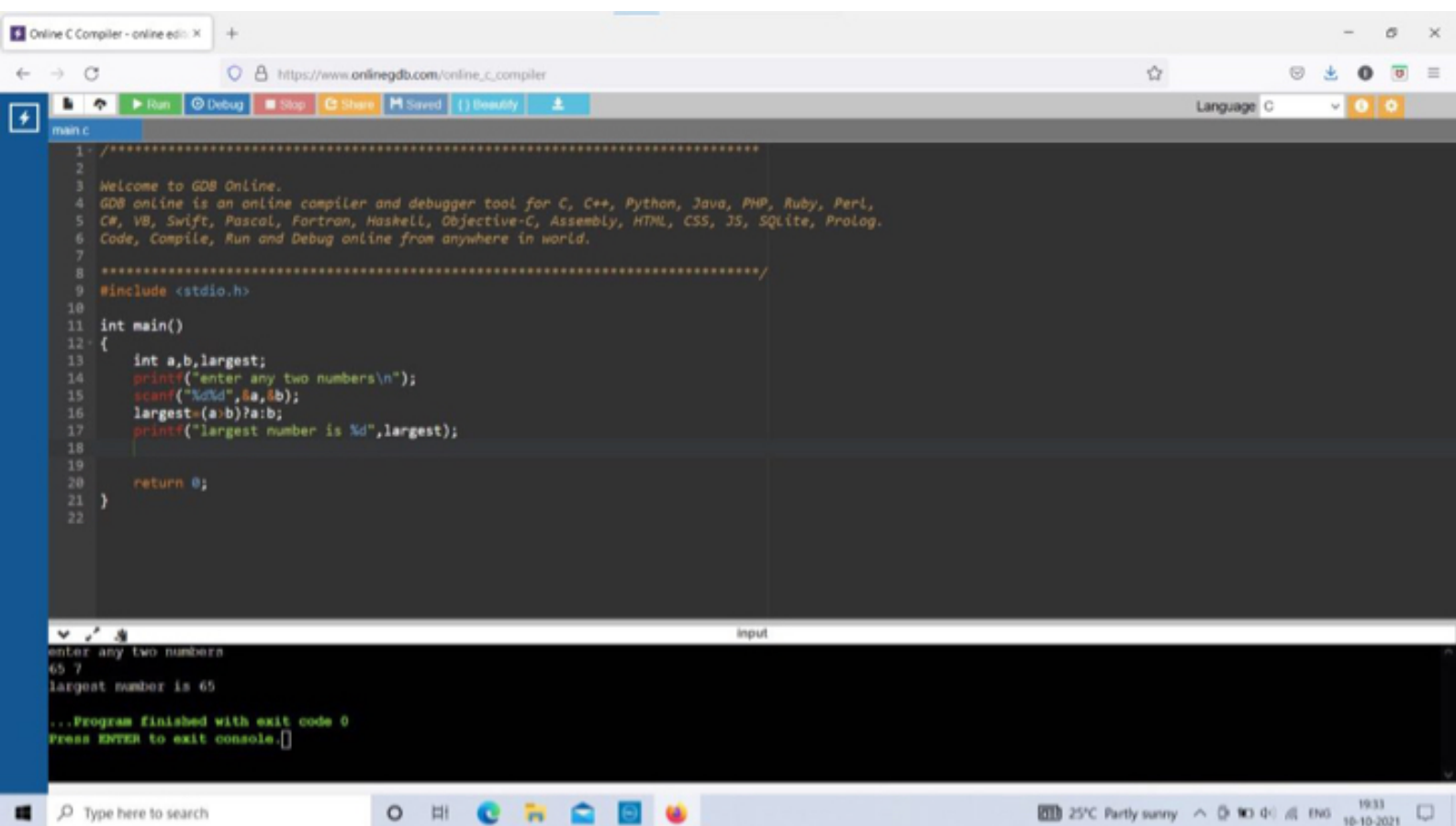
The screenshot shows a web browser window with the URL [https://www.onlinegdb.com/online\\_c\\_compiler#](https://www.onlinegdb.com/online_c_compiler#). The browser's address bar and tabs are visible at the top. Below the browser window is a code editor for a C program. The code defines a `main` function where a variable `num` is initialized to 22. It then prints the results of left-shifting 22 by 1, 2, and 3 bits, and right-shifting 22 by 1, 2, and 3 bits. The output of the program is displayed in a console window at the bottom, showing the expected results: 44, 88, 176 for left shifts and 11, 5, 2 for right shifts. The program ends with an exit code of 0.

```
1- /*
2-
3- Welcome to GDB Online.
4- GDB online is an online compiler and debugger tool for C, C++, Python, Java, PHP, Ruby, Perl,
5- C#, VB, Swift, Pascal, Fortran, Haskell, Objective-C, Assembly, HTML, CSS, JS, SQLite, Prolog.
6- Code, Compile, Run and Debug online from anywhere in world.
7-
8- */
9- #include <stdio.h>
10-
11- int main()
12- {
13-     int num=22;
14-     printf("working of left shift operator\n");
15-     printf("22<<1=%d\n22<<2=%d\n22<<3=%d\n",22<<1,22<<2,22<<3);
16-     printf("working of right shift operator\n");
17-     printf("22>>1=%d\n22>>2=%d\n22>>3=%d",22>>1,22>>2,22>>3);
18-
19-
20-     return 0;
21- }
22-
```

working of left shift operator  
22<<1=44  
22<<2=88  
22<<3=176  
working of right shift operator  
22>>1=11  
22>>2=5  
22>>3=2  
...Program finished with exit code 0  
Press ENTER to exit console.



Program 6. Write a program to determine the larger of two numbers using ternary operator.



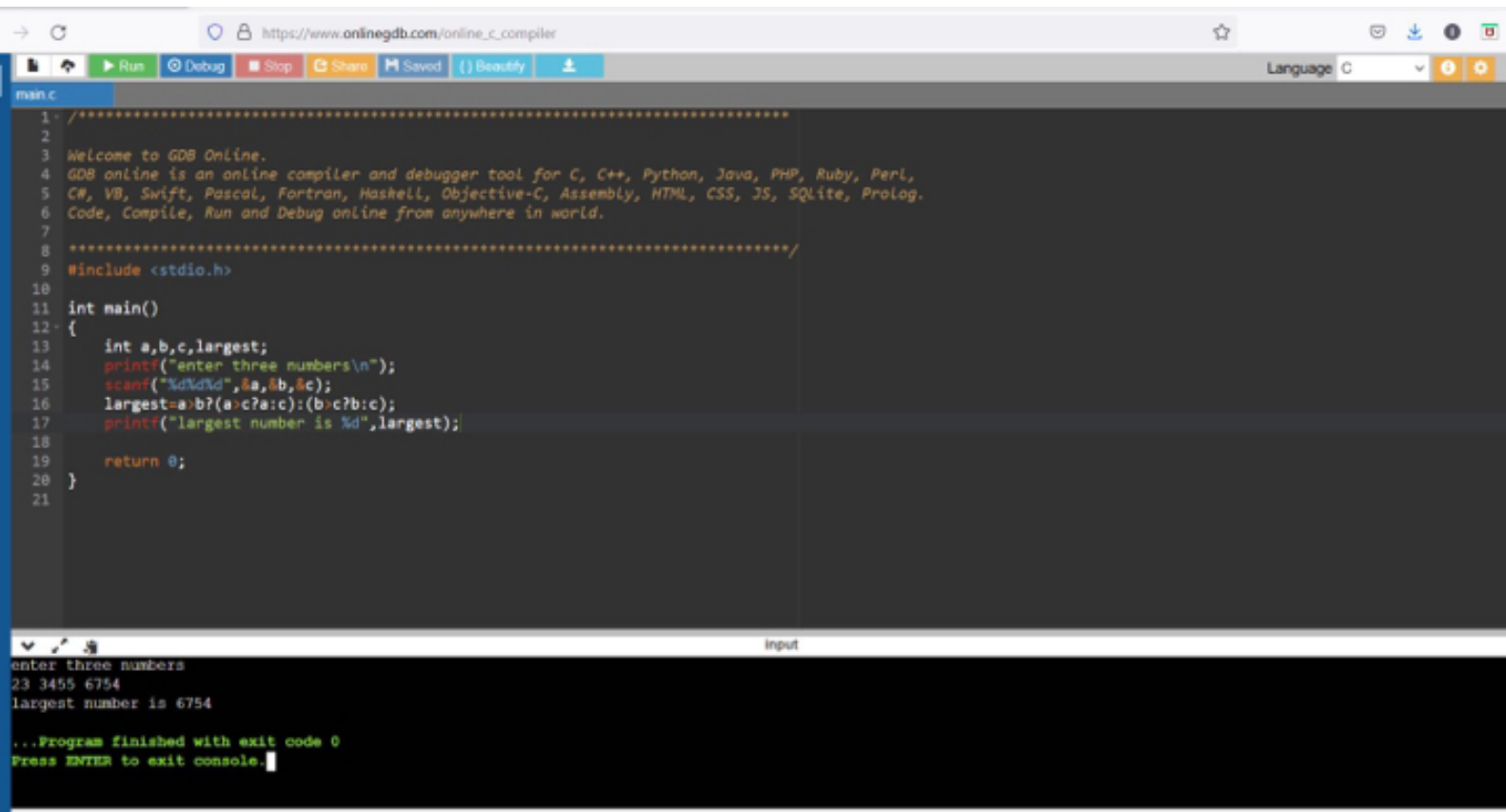
The screenshot shows a web browser window with the URL [https://www.onlinegdb.com/online\\_c\\_compiler](https://www.onlinegdb.com/online_c_compiler). The browser's address bar and tabs are visible at the top. Below the browser window is a code editor for a C program. The code is as follows:

```
1- /*
2- 3- Welcome to GDB Online.
4- GDB online is an online compiler and debugger tool for C, C++, Python, Java, PHP, Ruby, Perl,
5- C#, VB, Swift, Pascal, Fortran, Haskell, Objective-C, Assembly, HTML, CSS, JS, SQLite, Prolog.
6- Code, Compile, Run and Debug online from anywhere in world.
7-
8- */
9- #include <stdio.h>
10-
11- int main()
12- {
13-     int a,b,largest;
14-     printf("enter any two numbers\n");
15-     scanf("%d%d",&a,&b);
16-     largest=(a>b)?a:b;
17-     printf("largest number is %d",largest);
18-
19-
20-     return 0;
21- }
22-
```

Below the code editor is a console window showing the program's execution. The input is "65 7" and the output is "largest number is 65". The console also shows the program finished with exit code 0 and a prompt to press ENTER to exit the console.

At the bottom of the image, a Windows taskbar is visible with a search bar and several application icons. The system tray shows the date and time as 19:33 on 18-10-2021, and the weather as 25°C Partly sunny.

Program 7. Enhance the program 6 code to determine the largest of three numbers.



The screenshot shows a web browser window with the URL [https://www.onlinegdb.com/online\\_c\\_compiler](https://www.onlinegdb.com/online_c_compiler). The interface includes a toolbar with buttons for Run, Debug, Stop, Share, Saved, and Beautify. The main editor displays a C program named 'main.c' with the following code:

```
1. /*****
2.
3. Welcome to GDB Online.
4. GDB online is an online compiler and debugger tool for C, C++, Python, Java, PHP, Ruby, Perl,
5. C#, VB, Swift, Pascal, Fortran, Haskell, Objective-C, Assembly, HTML, CSS, JS, SQLite, Prolog.
6. Code, Compile, Run and Debug online from anywhere in world.
7.
8. *****/
9. #include <stdio.h>
10.
11. int main()
12. {
13.     int a,b,c,largest;
14.     printf("enter three numbers\n");
15.     scanf("%d%d%d",&a,&b,&c);
16.     largest=a>b?(a>c?a:c):(b>c?b:c);
17.     printf("largest number is %d",largest);
18.
19.     return 0;
20. }
21.
```

Below the editor, the 'Input' section shows the program's execution output:

```
enter three numbers
23 3455 6754
largest number is 6754

...Program finished with exit code 0
Press ENTER to exit console.
```