

**PRACTICAL FILE**  
**BCA-171**  
**(Computer Applications)**

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**TECNIA INSTITUTE OF ADVANCED STUDIES**

**NAAC ACCREDITED GRADE "A" INSTITUTE**

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# 1. Write a program to print ‘Hello World’

The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows several C files: Radius.c, swap2numbersusing3variable.c, program.c, hello.c (the active file), sumoftwonumbers.c, percentageof5subjects.c, and Vote.c.
- Code Editor:** The 'hello.c' file is open, displaying the following code:

```
#include <stdio.h>
#include<conio.h>
void main()
{
    printf("Keshav Gupta \n\n\n");
    printf("Hello World ");
    getch();
}
```
- Terminal:** A terminal window titled 'C:\C Language\hello.exe' is open, showing the output:

```
Keshav Gupta
Hello World
```
- System Tray:** Shows the date (06-01-2022), time (20:56), weather (14°C Partly cloudy), and system status (ENG).

## 2. Write a program to print sum of 2 numbers

The screenshot shows the Visual Studio Code interface with a dark theme. The code editor displays a file named `sumoftwonumbers.c` containing the following C code:

```
#include<stdio.h>
#include<conio.h>
void main ()
{
    int a, b;
    printf("Keshav Gupta \n \n");
    printf("Enter the Value of a\n");
    scanf("%d",&a);
    printf("Enter thy Value of b\n");
    scanf("%d",&b);
    printf("sum of a and b is %d", a + b);
    getch();
}
```

The status bar at the bottom of the code editor shows the file path `C:\C Language\sumoftwonumbers.c`, line 11, column 20, and encoding `UTF-8`. The taskbar below the code editor shows the Windows Start button, a search bar, and various pinned application icons.

The screenshot shows a terminal window titled `C:\C Language\sumoftwonumbers.exe`. The session starts with the name `Keshav Gupta`. It then prompts for values of `a` and `b`, both entered as `7` and `8` respectively. The final output is the sum `15`.

```
C:\C Language\sumoftwonumbers.exe
Keshav Gupta
Enter the Value of a
7
Enter thy Value of b
8
sum of a and b is 15
```

The taskbar at the bottom of the terminal window is identical to the one in the code editor, showing the Windows Start button, a search bar, and pinned application icons.

### 3. Write a program to print sum and percentage of five subjects.

The screenshot shows the Visual Studio Code interface with the following details:

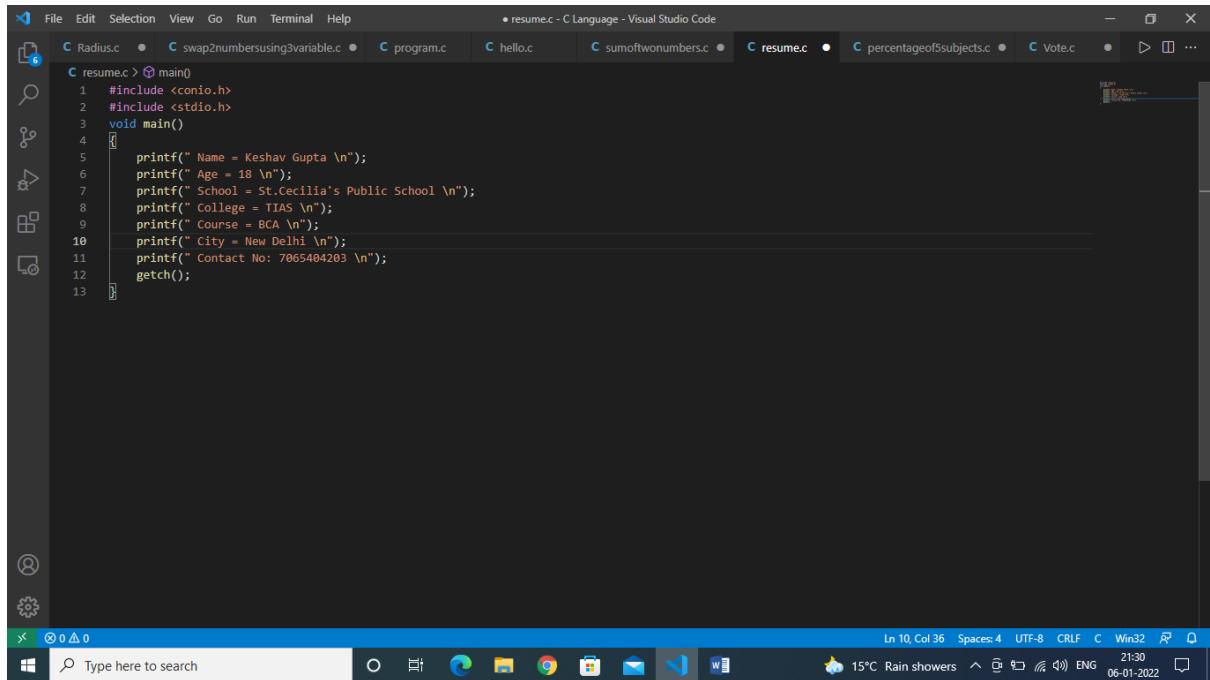
- File Explorer:** Shows several C files including "percentageof5subjects.c", "swap2numbersusing3variable.c", "program.c", "hello.c", "sumoftwonumbers.c", "percentageof5subjects.c", and "Vote.c".
- Code Editor:** Displays the content of "percentageof5subjects.c". The code is as follows:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int Maths, Eng, Hindi, Eco, Bst, e;
    int g;
    printf("Keshav Gupta\n");
    printf(" Enter the value of Maths ");
    scanf("%d", &Maths);
    printf("Enter the Value of Eng ");
    scanf("%d", &Eng);
    printf("Enter the Value of Hindi ");
    scanf("%d", &Hindi);
    printf("Enter the Value of Eco ");
    scanf("%d", &Eco);
    printf("Enter the Value of Bst ");
    scanf("%d", &Bst);
    e = Maths + Eng + Hindi + Eco + Bst;
    printf("%d\n", e);
    g = e / 5;
    printf("percentage %d \n", g);
    getch();
}
```

- Terminal:** Shows the command line interface with the following session:

```
C:\C Language\percentageof5subjects.exe
Keshav Gupta
Enter the value of Maths 78
Enter the Value of Eng 89
Enter the Value of Hindi 90
Enter the Value of Eco 89
Enter the Value of Bst 79
425
percentage 85
```
- Taskbar:** Shows the Windows taskbar with various pinned icons and the system tray indicating the date and time as 06-01-2022, 21:12.

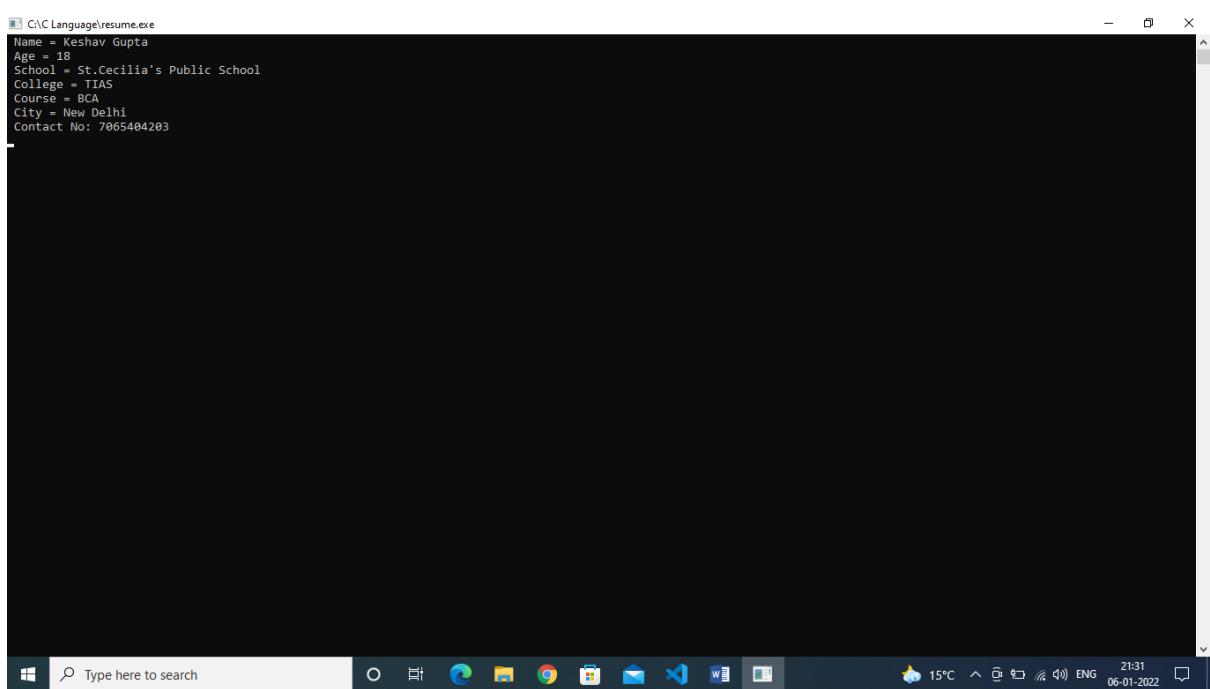
## 4. Write a program to print your resume.



The screenshot shows the Visual Studio Code interface with a dark theme. A file named "resume.c" is open in the editor, displaying the following C code:

```
#include <conio.h>
#include <stdio.h>
void main()
{
    printf(" Name = Keshav Gupta \n");
    printf(" Age = 18 \n");
    printf(" School = St.Cecilia's Public School \n");
    printf(" College = TIAS \n");
    printf(" Course = BCA \n");
    printf(" City = New Delhi \n");
    printf(" Contact No: 7065404203 \n");
    getch();
}
```

The status bar at the bottom of the code editor indicates: Ln 10, Col 36, Spaces: 4, UTF-8, C, Win32.

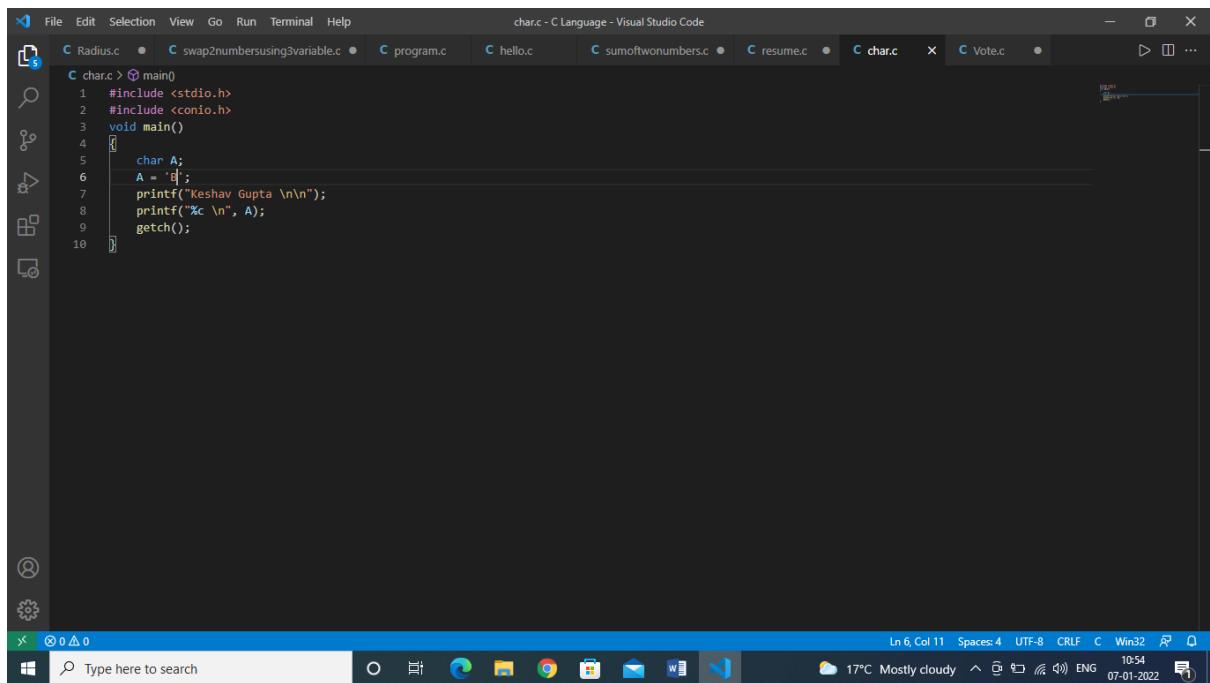


A terminal window titled "C:\C Language\resume.exe" is shown, displaying the output of the program:

```
Name = Keshav Gupta
Age = 18
School = St.Cecilia's Public School
College = TIAS
Course = BCA
City = New Delhi
Contact No: 7065404203
```

The terminal window has a status bar at the bottom showing: 15°C Rain showers, 21:30, ENG, 06-01-2022.

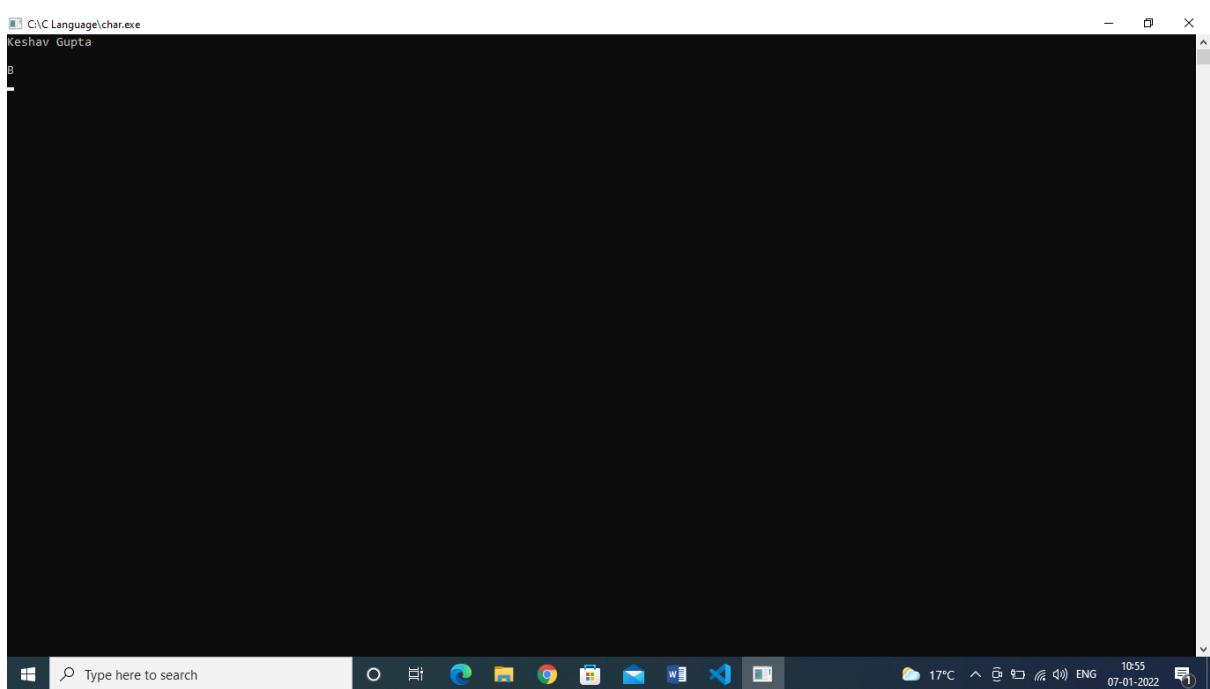
## 5. Write a program to print char type variable



The screenshot shows a Visual Studio Code interface with a dark theme. The top menu bar includes File, Edit, Selection, View, Go, Run, Terminal, Help, and a tab for "char.c - C Language - Visual Studio Code". Below the menu is a toolbar with icons for search, file operations, and other tools. The main editor area contains the following C code:

```
char.c > main()
1 #include <stdio.h>
2 #include <conio.h>
3 void main()
4 {
5     char A;
6     A = 'B';
7     printf("Keshav Gupta \n\n");
8     printf("%c \n", A);
9     getch();
10 }
```

The status bar at the bottom shows "Ln 6, Col 11" and "Spaces: 4" along with other system information.

The screenshot shows a Windows command prompt window titled "C:\C Language\char.exe". The window displays the output of the program: "Keshav Gupta" followed by a blank line. The status bar at the bottom shows "10:55" and other system details.

## 6. Write a program to print greatest number.

The screenshot shows the Visual Studio Code interface with a dark theme. The left sidebar has icons for file operations like Open, Save, Find, and Run. The top menu bar includes File, Edit, Selection, View, Go, Run, Terminal, and Help. The title bar says "greaternumber.c - C Language - Visual Studio Code". The main editor area contains the following C code:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a, b, c, greatest;
    printf(" Keshav Gupta \n");
    printf(" Enter Three Number \n");
    scanf(" %d%d%d \n", &a, &b, &c);
    greatest = (a > b) ? ((a > c) ? a : c) : ((b > c) ? b : c);
    printf("The Greatest Number is =%d \n", greatest);
    getch();
}
```

The status bar at the bottom shows "Ln 11, Col 1 Spaces: 4 UTF-8 C Win32" and the system tray shows "17°C Mostly cloudy 11:07 07-01-2022".

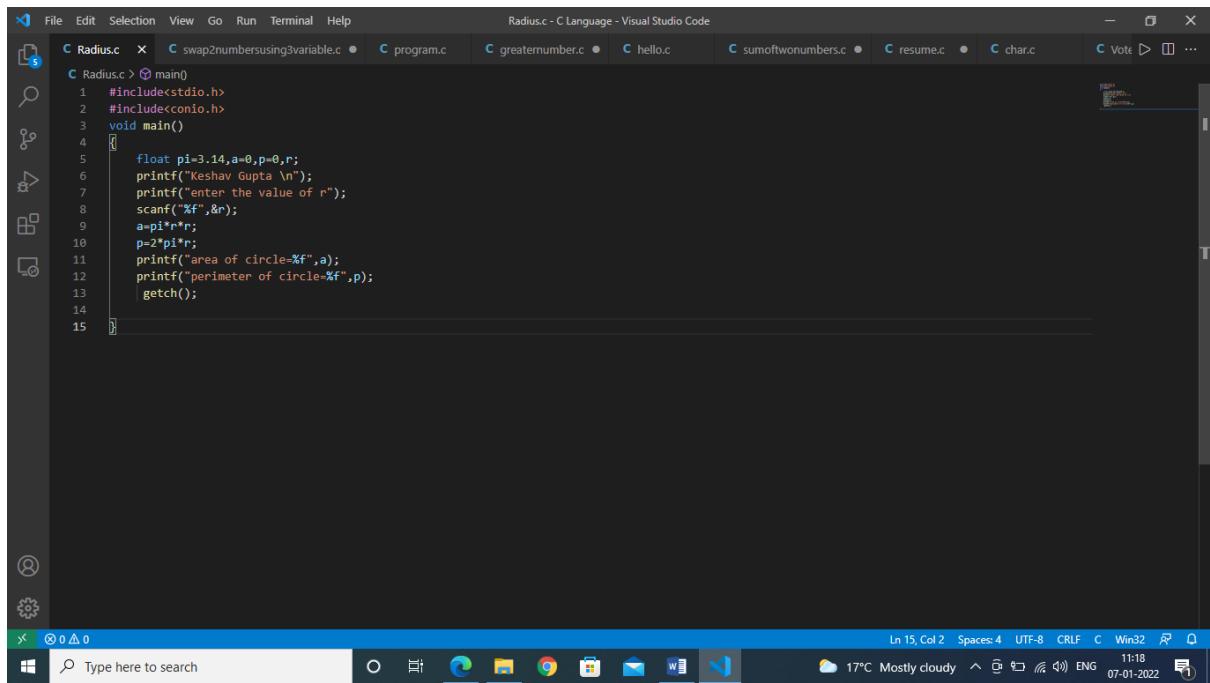
  

The screenshot shows a Windows terminal window titled "C:\C Language\greaternumber.exe". It displays the following text:

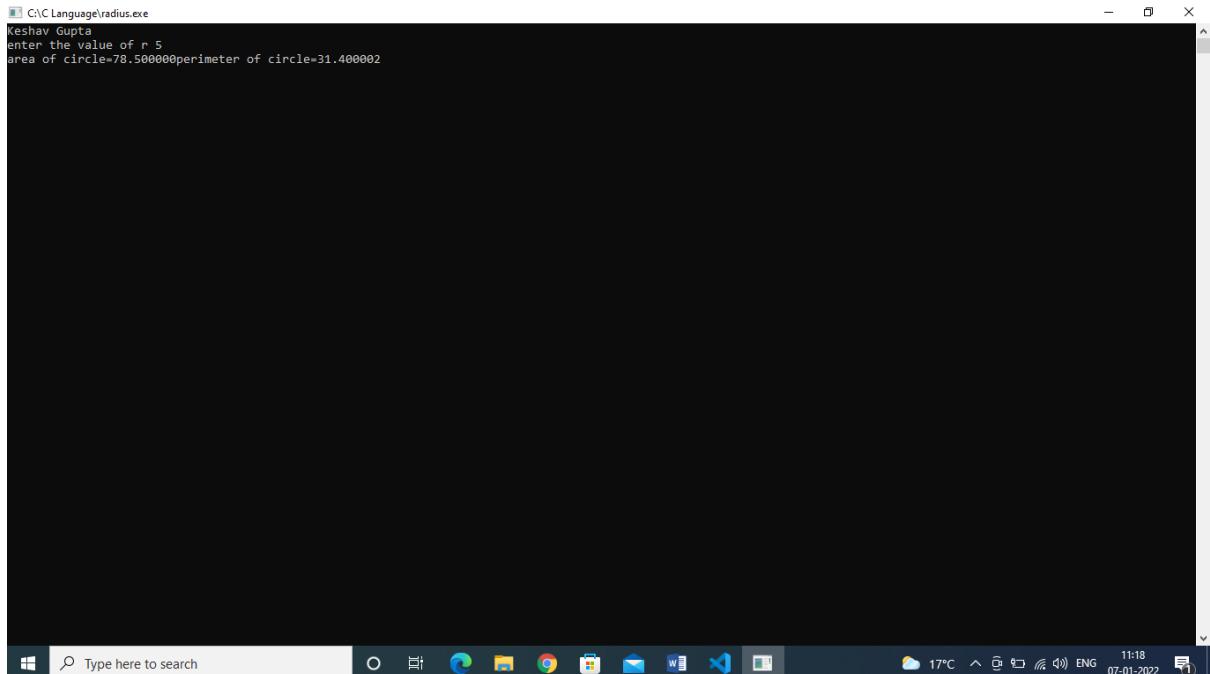
```
Keshav Gupta
Enter Three Number
45
56
99
The Greatest Number is =99
```

The status bar at the bottom shows "17°C 11:07 07-01-2022" and the system tray shows "17°C ENG 11:07 07-01-2022".

## 7. Write a program to find area and perimeter of circle given radius.



```
#include<stdio.h>
#include<conio.h>
void main()
{
    float pi=3.14,a=0,p=0,r;
    printf("Keshav Gupta \n");
    printf("enter the value of r");
    scanf("%f",&r);
    a=pi*r*r;
    p=2*pi*r;
    printf("area of circle=%f",a);
    printf("perimeter of circle=%f",p);
    getch();
}
```



```
C:\Language\radius.exe
Keshav Gupta
enter the value of r 5
area of circle=78.500000
perimeter of circle=31.400002
```

## 8. Write a program to print the size of a variable

The screenshot shows a Windows desktop environment with two windows open. The top window is 'Visual Studio Code' showing a C program named 'sizeofvariable.c'. The code prints 'Keshav Gupta \n' and then the size of variable 'a' in bits. A status bar at the bottom of the code editor indicates 'Ln 7, Col 3'. A notification bubble from 'Yash khanna' is visible, stating 'replied to a conversation you're in BCA Sem-1 Shift-2 Div-A / General'. The bottom window is a terminal window titled 'C:\C Language\sizeofvariable.exe' showing the output: 'Keshav Gupta' followed by '4 bits'. The taskbar at the bottom of the screen shows various icons for common Windows applications like File Explorer, Edge, and File Explorer again.

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a;
    printf(" Keshav Gupta \n");
    printf("%d bits \n ", sizeof(a));
}
```

C:\C Language\sizeofvariable.exe  
Keshav Gupta  
4 bits

## 9. Write a program swap two number using third number.

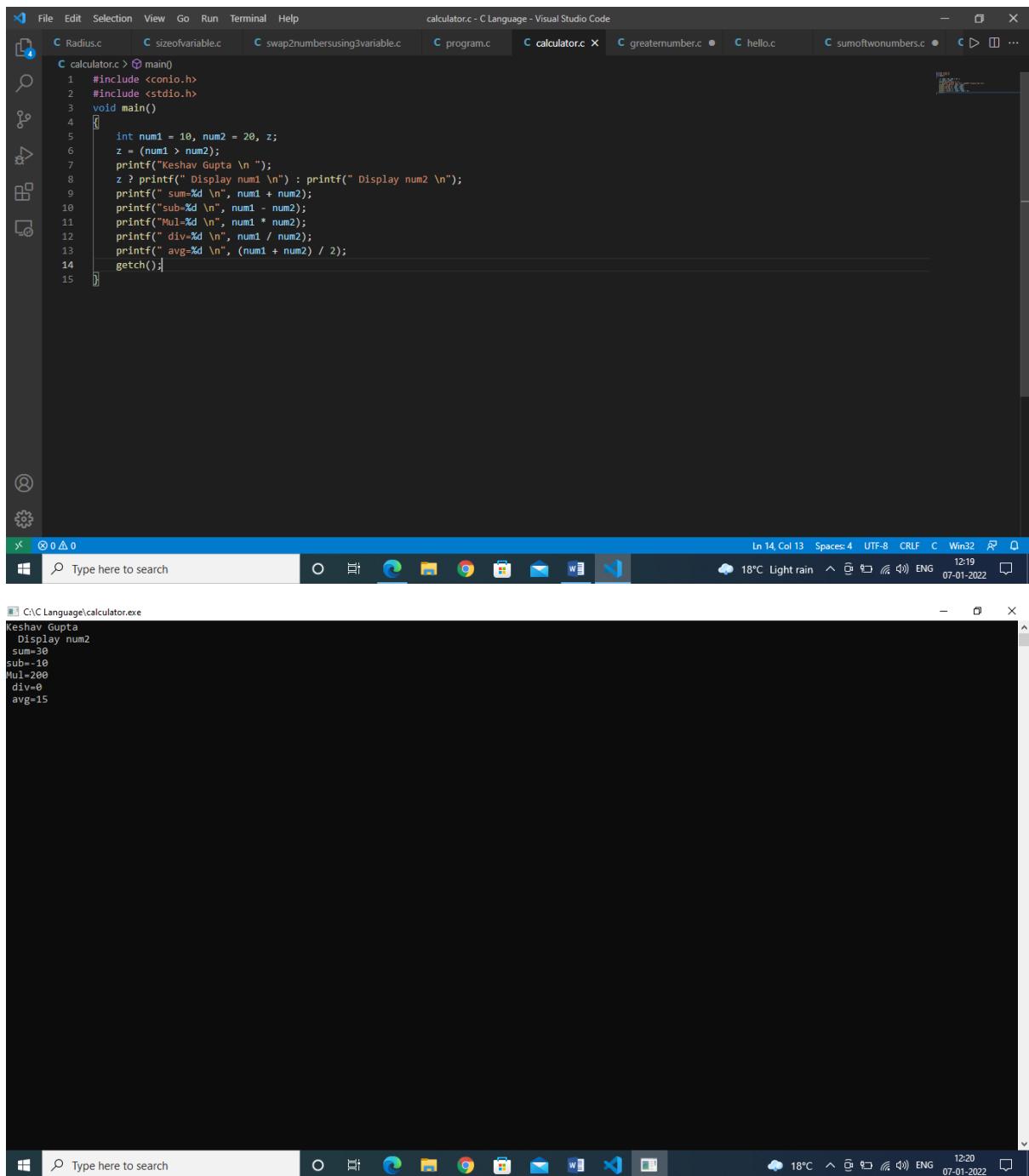
The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows files like Radius.c, sizeofvariable.c, swap2numbersusing3variable.c (the active tab), program.c, greaterumber.c, hello.c, sumoftwonumbers.c, resume.c.
- Code Editor:** Displays the C code for swapping three variables:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a = 10, b = 20, c;
    c = a;
    a = b;
    b = c;
    printf("Keshav Gupta \n");
    printf("enter a=%d \n", a);
    printf("enter b=%d \n", b);
    getch();
}
```
- Terminal:** Shows the command line interface with the following interaction:

```
C:\C Language\swap2numbersusing3variable.c
Keshav Gupta
enter a=20
enter b=10
```
- System Tray:** Shows weather (18°C), battery status, and system date/time (07-01-2022, 11:55).

# 10. Write a menu driven program to construct calculator for following arithmetic operations : +,-,x,division,average,%.

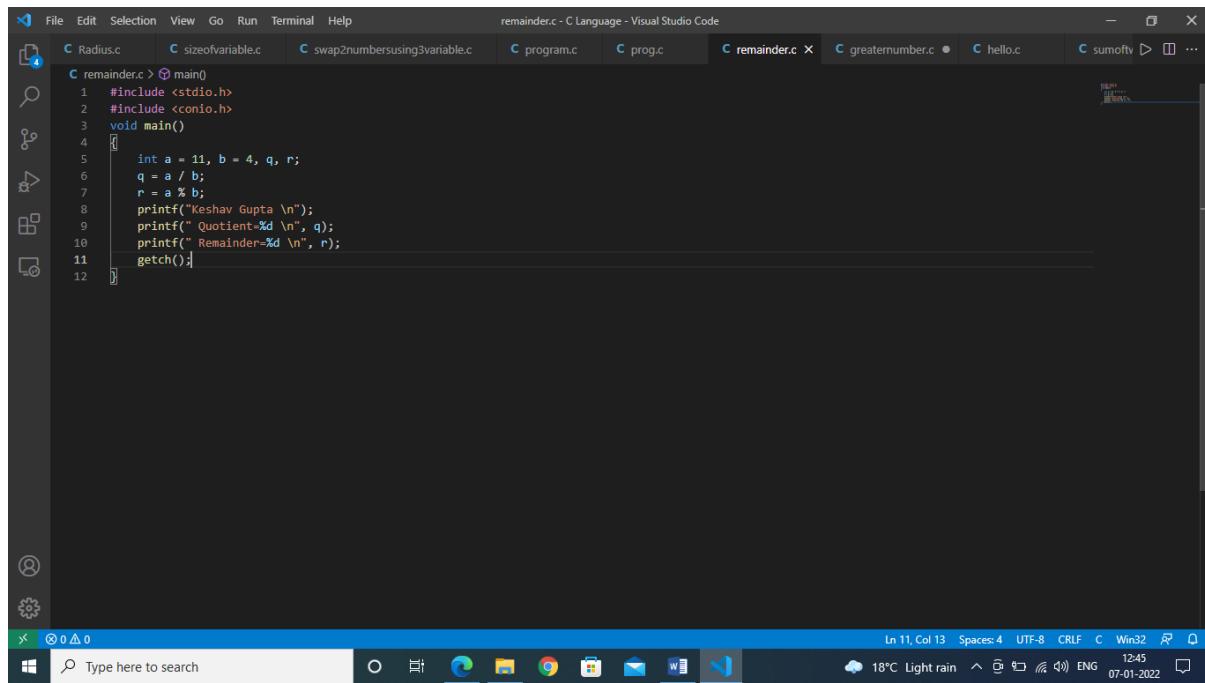


```
#include <conio.h>
#include <stdio.h>
void main()
{
    int num1 = 10, num2 = 20, z;
    z = (num1 > num2);
    printf("Keshav Gupta \n");
    z ? printf(" Display num1 \n") : printf(" Display num2 \n");
    printf(" sum=%d \n", num1 + num2);
    printf(" sub=%d \n", num1 - num2);
    printf(" Mul=%d \n", num1 * num2);
    printf(" div=%d \n", num1 / num2);
    printf(" avg=%d \n", (num1 + num2) / 2);
    getch();
}
```

The screenshot shows the Visual Studio Code interface with the calculator.c file open. The code defines a main function that performs arithmetic operations based on user input. It includes conditional statements for addition, subtraction, multiplication, division, and average calculation. The output window shows the results of the calculations for num1=10 and num2=20.

```
Keshav Gupta
Display num2
sum=30
sub=-10
Mul=200
div=0
avg=15
```

# 11. Write a program to display quotient and remainder.



The screenshot shows the Visual Studio Code interface with a dark theme. The left sidebar has icons for file operations like Open, Save, Find, and Refresh. The top menu bar includes File, Edit, Selection, View, Go, Run, Terminal, and Help. The title bar says "remainder.c - C Language - Visual Studio Code". The main editor area contains the following C code:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a = 11, b = 4, q, r;
    q = a / b;
    r = a % b;
    printf("Keshav Gupta \n");
    printf(" Quotient=%d \n", q);
    printf(" Remainder=%d \n", r);
    getch();
}
```

The status bar at the bottom shows "Ln 11, Col 13" and other system information. Below the code editor is a terminal window titled "C:\C Language\remainder.exe" showing the output of the program:

```
Keshav Gupta
Quotient=2
Remainder=3
```

The Windows taskbar at the bottom includes icons for Start, Task View, File Explorer, Edge, Google Chrome, Mail, Word, Excel, and Visual Studio Code. The system tray shows the date and time as "07-01-2022 12:45".

## 12. Write a program to check human are eligible for voating or not.

The screenshot shows the Visual Studio Code interface with the 'Vote.c' file open. The code checks if a person is eligible to vote based on their age. It includes #include directives for stdio.h and conio.h, defines a main function, and uses printf and scanf functions to interact with the user. The terminal window below shows the execution of the program, where it prints 'Keshav Gupta', prompts for age input ('enter age'), and then outputs 'eligible'.

```
Vote.c - C Language - Visual Studio Code
File Edit Selection View Go Run Terminal Help
Vote.c prog.c remainder.c greaternumber.c hello.c sumoftwonumbers.c resume.c char.c areaperimeter.c

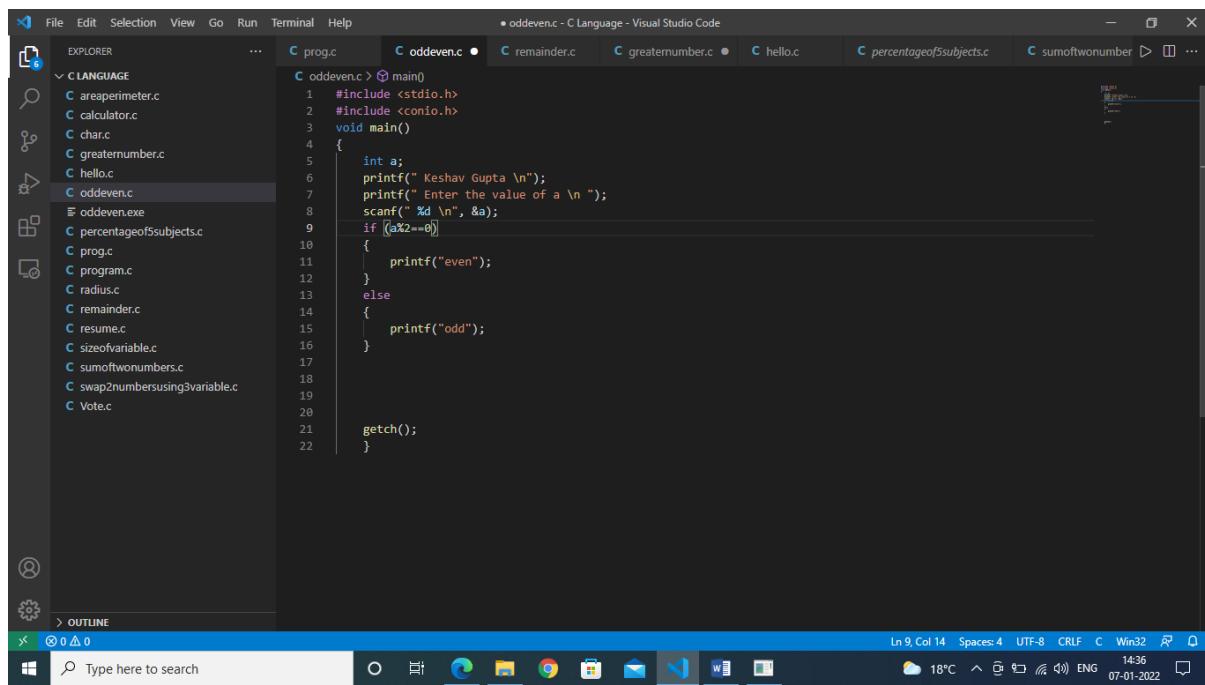
Vote.c > main()
1 #include <stdio.h>
2 #include <conio.h>
3 void main()
4 {
5     int age;
6     printf("Keshav Gupta \n \n");
7     printf("enter age");
8     scanf("%d", &age);
9     if (age >= 18)
10    {
11        printf("eligible");
12    }
13    else
14    {
15        printf("you are not eligible");
16    }
17    getch();
18 }

Ln 16, Col 6  Spaces:4  UTF-8  CRLF  C  Win32  14:19  07-01-2022
```

```
C:\C Language\Vote.exe
Keshav Gupta
enter age 24
eligible
```

```
18°C  Mostly cloudy  14:20  07-01-2022
```

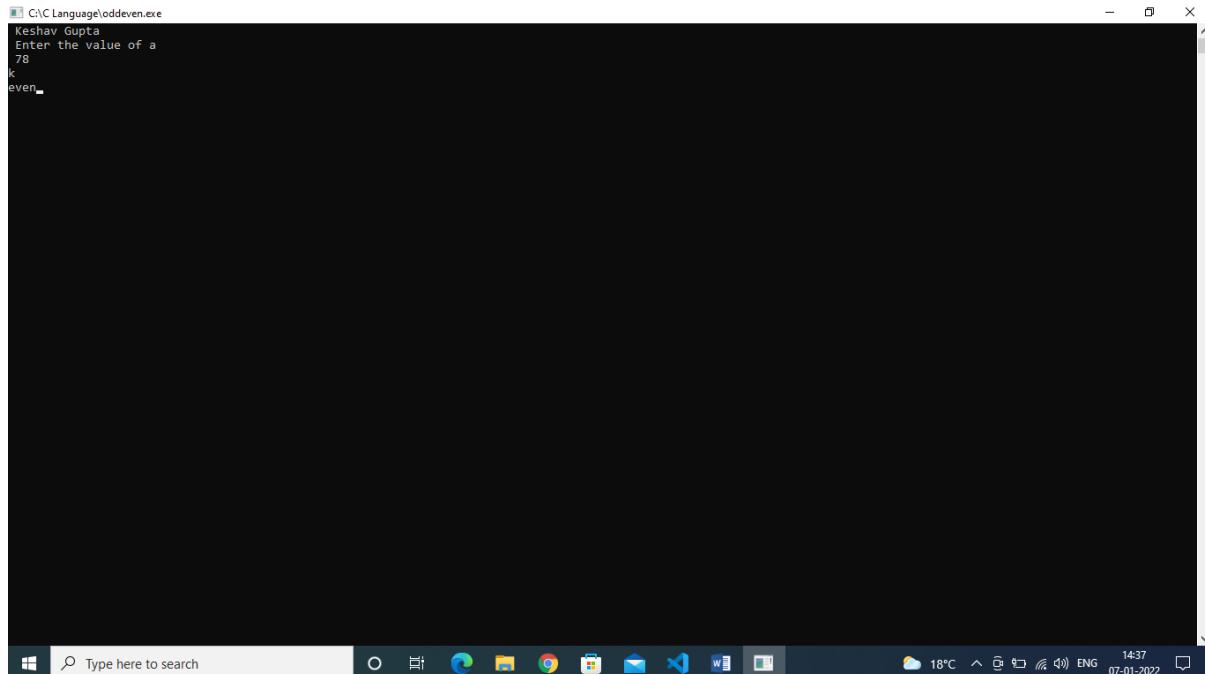
# 13. Write a program to check that number is even or odd.



The screenshot shows the Visual Studio Code interface with the C Language extension installed. The Explorer sidebar on the left lists various C files. The main editor window displays the code for 'oddeven.c'.

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a;
    printf(" Keshav Gupta \n");
    printf(" Enter the value of a \n ");
    scanf("%d \n", &a);
    if [(a%2==0)]
    {
        printf("even");
    }
    else
    {
        printf("odd");
    }
    getch();
}
```

The status bar at the bottom shows file details: Ln 9, Col 14, Spaces:4, UTF-8, CRLF, C, Win32, and a timestamp of 14:36 07-01-2022.

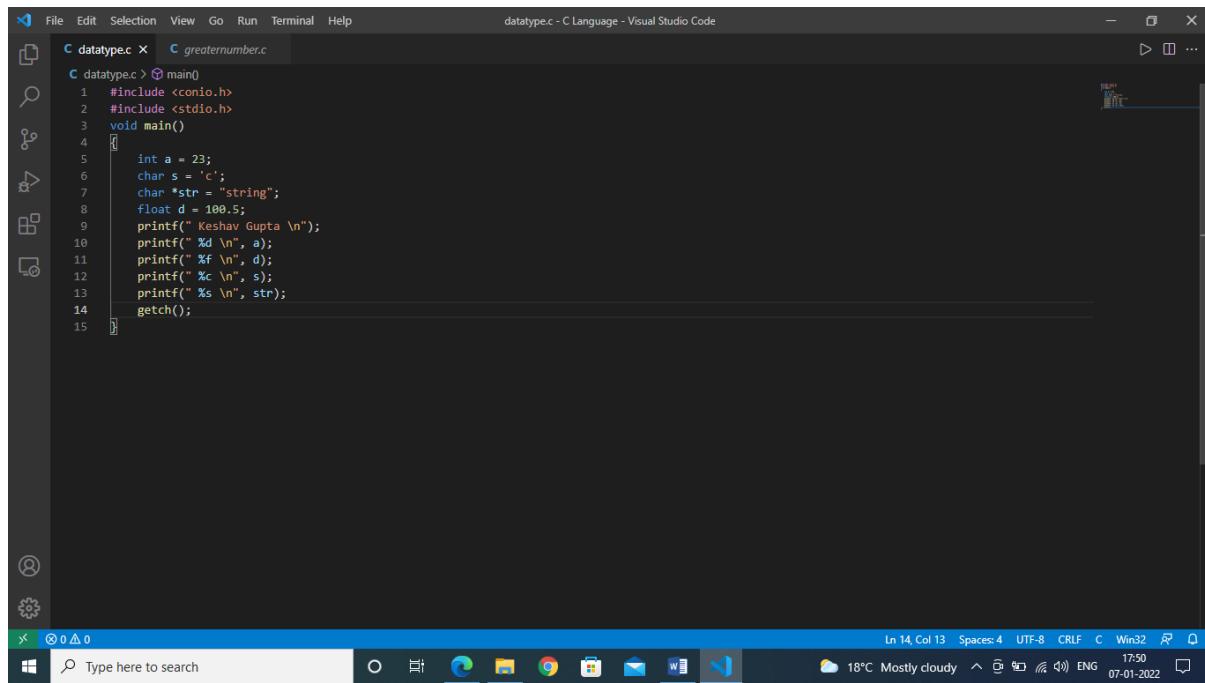


A separate screenshot shows a Windows terminal window titled 'C:\Language\oddeven.exe'. It displays the output of the program:

```
Keshav Gupta
Enter the value of a
78
even
```

The status bar at the bottom shows a temperature of 18°C, a timestamp of 14:37 07-01-2022, and system icons for battery, signal, and network.

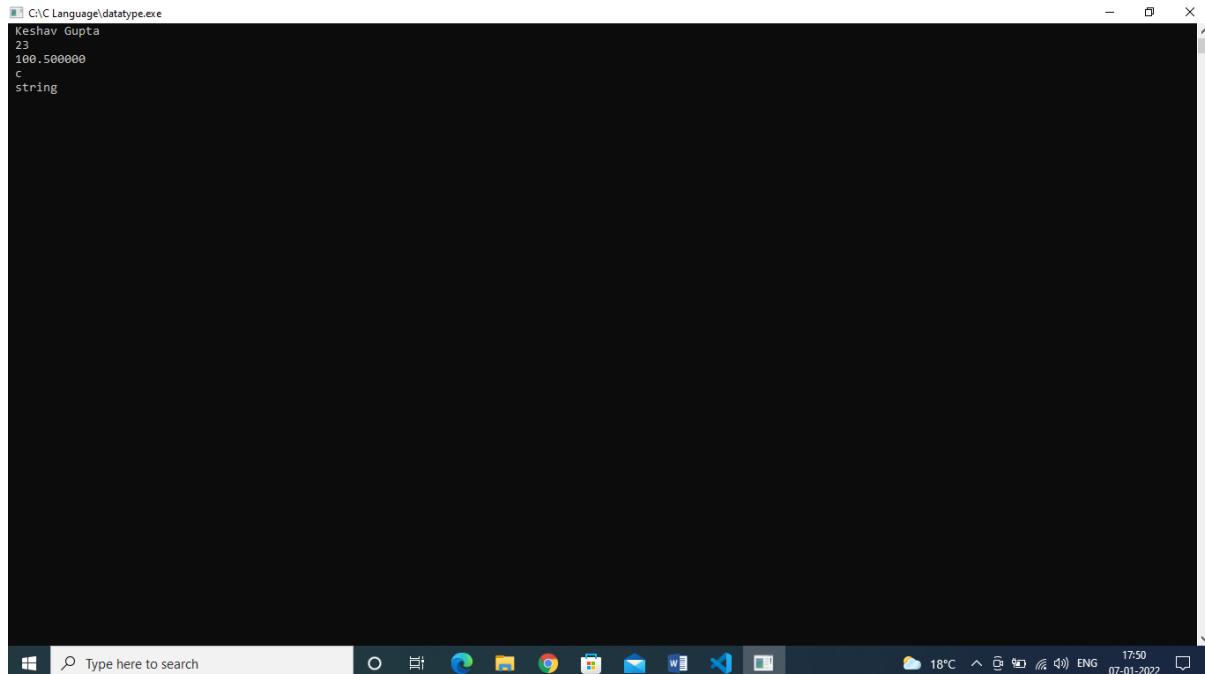
## 14. Write a program to print datatypes and strings.



The screenshot shows the Visual Studio Code interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, Terminal, Help
- Editor:** datatype.c - C Language - Visual Studio Code
- Code Content:**

```
datatype.c x greaternumber.c
C datatype.c > main()
1 #include <conio.h>
2 #include <stdio.h>
3 void main()
4 {
5     int a = 23;
6     char s = 'c';
7     char *str = "string";
8     float d = 100.5;
9     printf(" Keshav Gupta \n");
10    printf(" %d \n", a);
11    printf(" %f \n", d);
12    printf(" %c \n", s);
13    printf(" %s \n", str);
14    getch();
15 }
```
- Terminal:** Shows the output of the compiled program: Keshav Gupta, 23, 100.500000, c, string.
- System Status Bar:** In 14, Col 13, Spaces:4, UTF-8, CRLF, C, Win32, 17:50, 18°C, Mostly cloudy, ENG, 07-01-2022



The screenshot shows a Windows Command Prompt window with the following details:

- Title Bar:** C:\C Language\datatype.exe
- Output:** Keshav Gupta, 23, 100.500000, c, string
- System Status Bar:** 18°C, 17:50, 07-01-2022

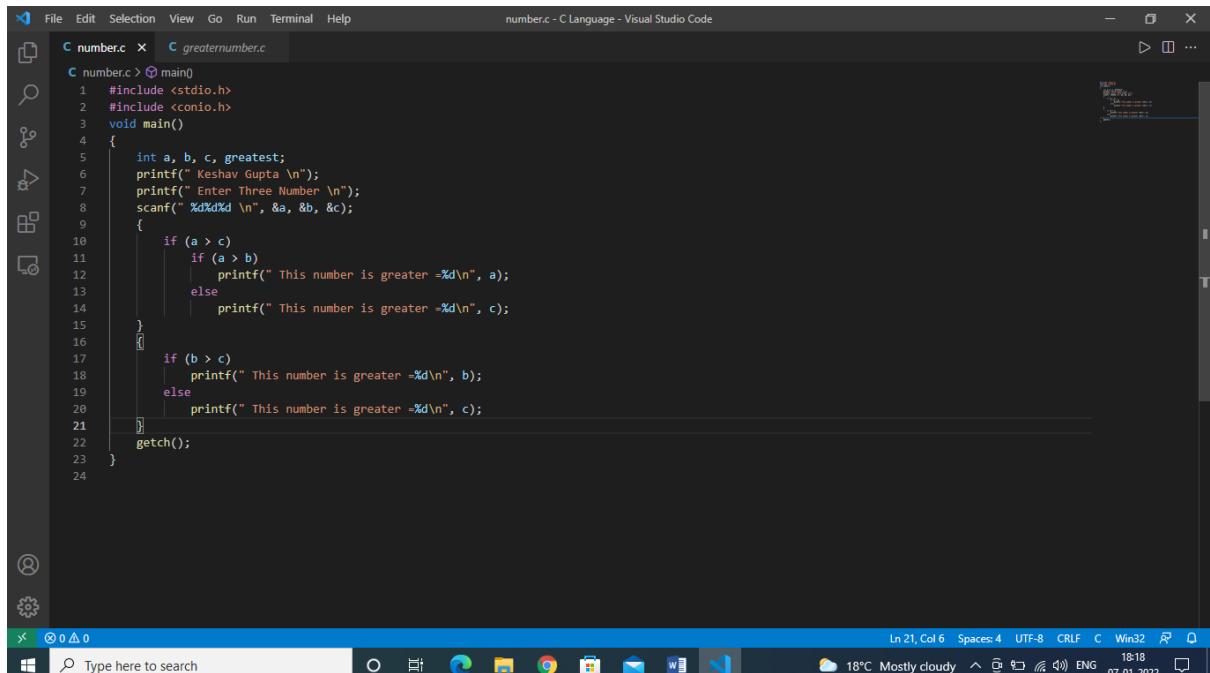
# 15. Write a program to swap two numbers without using third number.

The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows two files: "datatype.c" and "swap2numberwithout3variable.c".
- Code Editor:** Displays the "swap2numberwithout3variable.c" file content:#include <stdio.h>
#include <conio.h>
void main()
{
 int a = 10, b = 20;
 a = a + b;
 b = a - b;
 a = a - b;
 printf("Keshav Gupta \n");
 printf("a=%d \n", a);
 printf("b=%d \n", b);
 getch();
}
- Terminal:** Shows the output of the compiled program "swap2numberwithout3variable.exe". The output is:

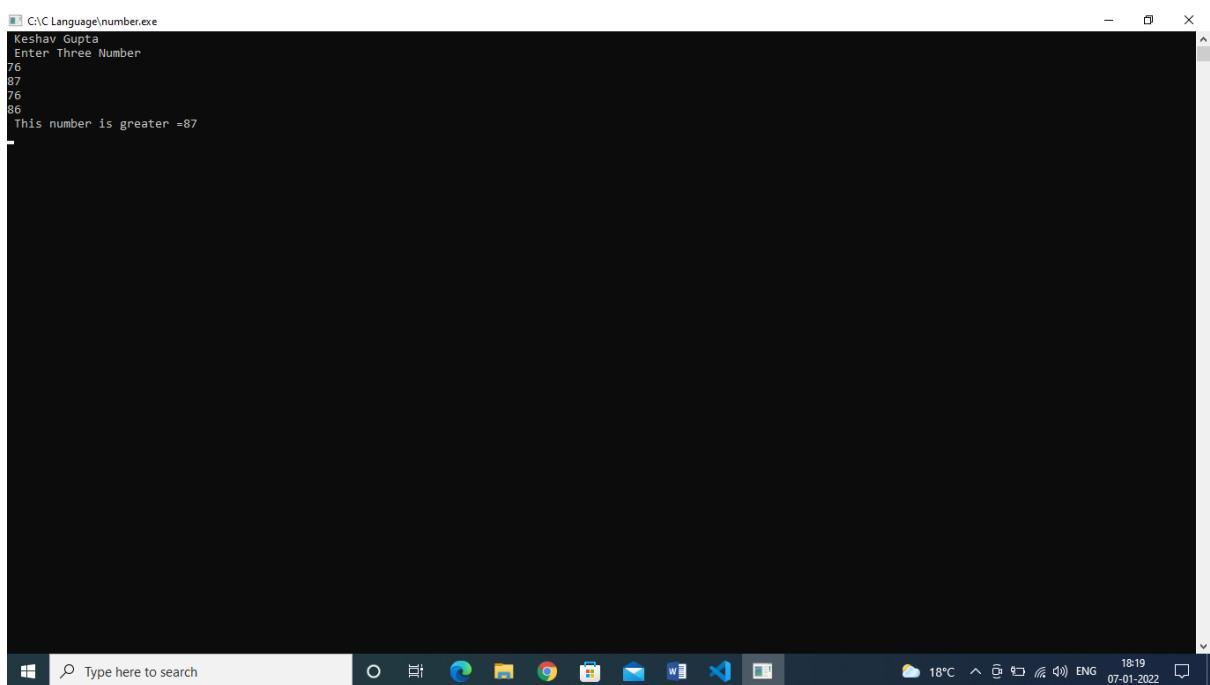
```
Keshav Gupta
a=20
b=10
```
- System Tray:** Shows the date (07-01-2022), time (18:01), and weather (18°C Mostly cloudy).

## 16. Write a program to find greatest or maximum of 3 number.



```
File Edit Selection View Go Run Terminal Help
number.c - C Language - Visual Studio Code
C number.c > C greaternumber.c
C number.c > main()
1 #include <stdio.h>
2 #include <conio.h>
3 void main()
4 {
5     int a, b, c, greatest;
6     printf(" Keshav Gupta \n");
7     printf(" Enter Three Number \n");
8     scanf(" %d%d%d \n", &a, &b, &c);
9     {
10         if (a > c)
11             if (a > b)
12                 printf(" This number is greater =%d\n", a);
13             else
14                 printf(" This number is greater =%d\n", c);
15     }
16     {
17         if (b > c)
18             printf(" This number is greater =%d\n", b);
19         else
20             printf(" This number is greater =%d\n", c);
21     }
22     getch();
23 }
24

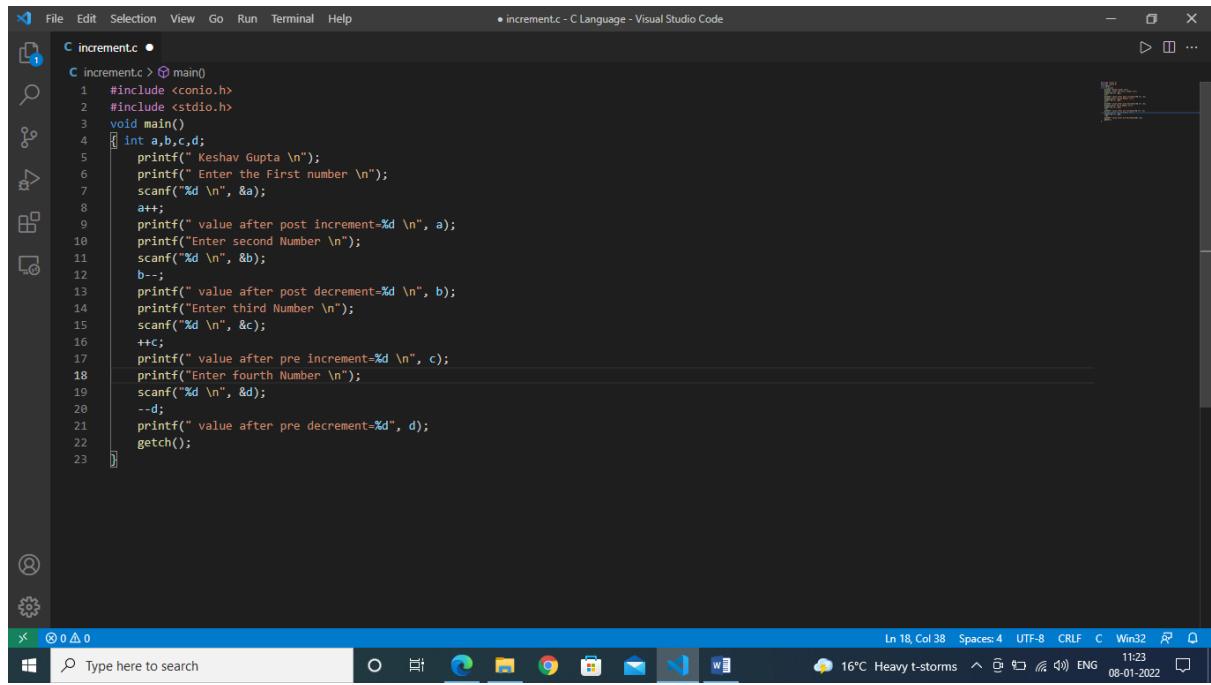
Ln 21, Col 6  Spaces:4  UTF-8  CRLF  C  Win32  ⚡  🔍
Type here to search  18°C Mostly cloudy  18:18  ENG  07-01-2022
```



```
C:\C Language\> number.exe
Keshav Gupta
Enter Three Number
76
87
76
86
This number is greater =87
```

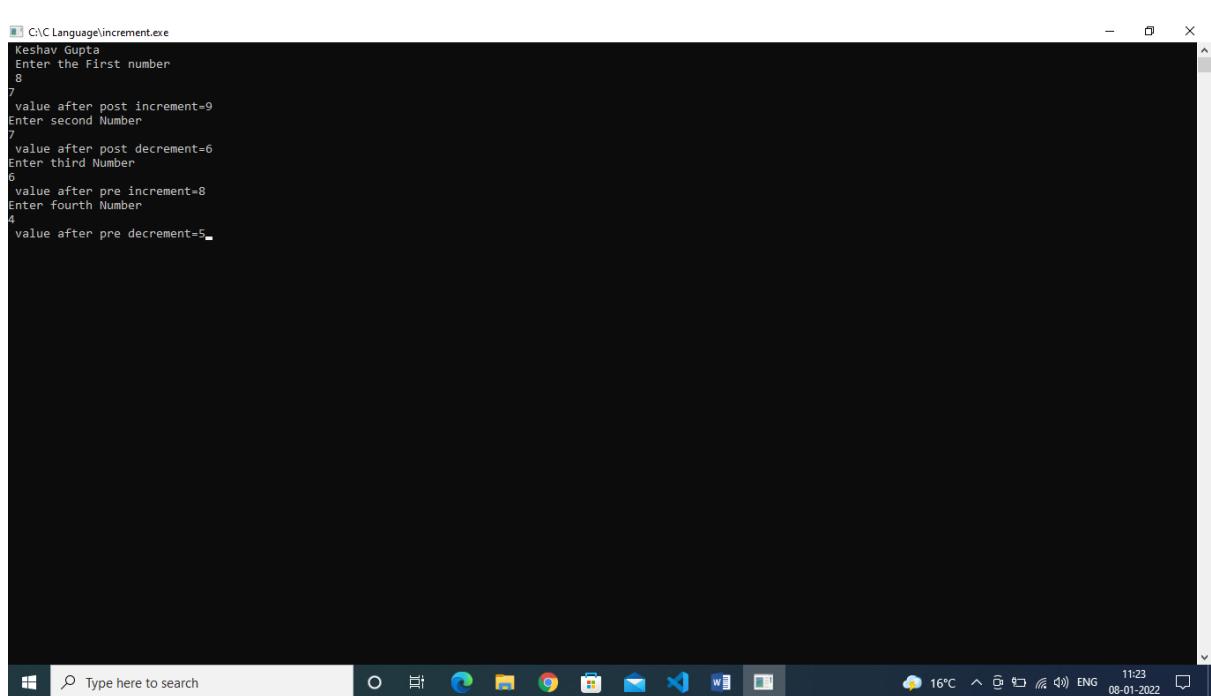
18°C 18:19 ENG 07-01-2022

## 17. Write a program to find post/pre increment and decrement.



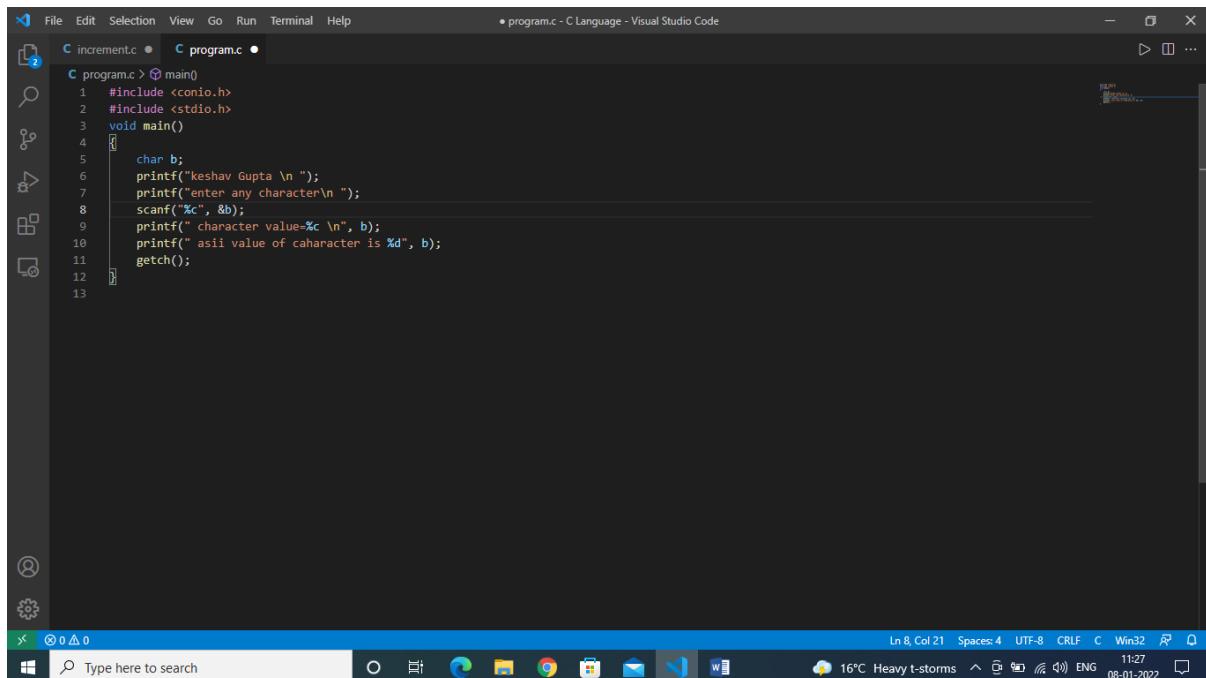
```
C:\increment.c
File Edit Selection View Go Run Terminal Help
increment.c - C Language - Visual Studio Code
C increment.c > main()
1 #include <conio.h>
2 #include <stdio.h>
3 void main()
4 {
5     int a,b,c,d;
6     printf(" Keshav Gupta \n");
7     printf(" Enter the First number \n");
8     scanf("%d \n", &a);
9     a++;
10    printf(" value after post increment=%d \n", a);
11    printf("Enter second Number \n");
12    scanf("%d \n", &b);
13    b--;
14    printf(" value after post decrement=%d \n", b);
15    printf("Enter third Number \n");
16    scanf("%d \n", &c);
17    c++;
18    printf(" value after pre increment=%d \n", c);
19    printf("Enter fourth Number \n");
20    scanf("%d \n", &d);
21    d--;
22    printf(" value after pre decrement=%d", d);
23    getch();
}

In 18, Col 38  Spaces:4  UTF-8  CRLF  C  Win32  □  □
```



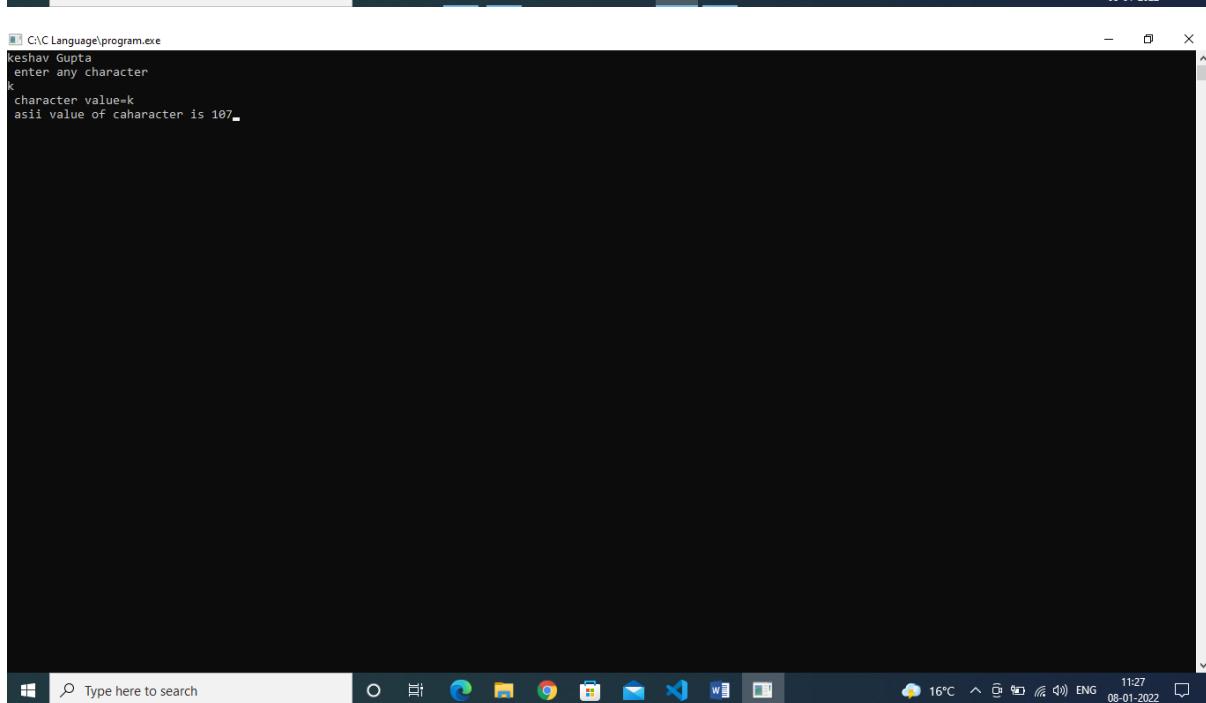
```
C:\C Language\increment.exe
Keshav Gupta
Enter the First number
8
value after post increment=9
Enter second Number
7
value after post decrement=6
Enter third Number
6
value after pre increment=8
Enter fourth Number
4
value after pre decrement=5
```

## 18. Write a program to print ascii value of character.



The screenshot shows the Visual Studio Code interface with a dark theme. A file named "program.c" is open in the editor. The code prints a welcome message, prompts for a character input, reads it using `scanf`, prints its ASCII value using `printf`, and then waits for user input with `getch()`. The status bar at the bottom indicates the file is 8 lines long, 21 columns wide, using UTF-8 encoding, and is a C file.

```
#include <conio.h>
#include <stdio.h>
void main()
{
    char b;
    printf("Keshav Gupta \n");
    printf("Enter any character\n");
    scanf("%c", &b);
    printf(" Character value=%c \n", b);
    printf(" ASCII value of character is %d", b);
    getch();
}
```



The screenshot shows a Windows command prompt window titled "C:\C Language\program.exe". It displays the output of the program: "Keshav Gupta", "Enter any character", "k", "Character value=k", and "ASCII value of character is 107". The taskbar at the bottom shows other open applications like File Explorer, Edge, and File Manager.

## 19. Write a program check no. is greater than 100 less than 1000.

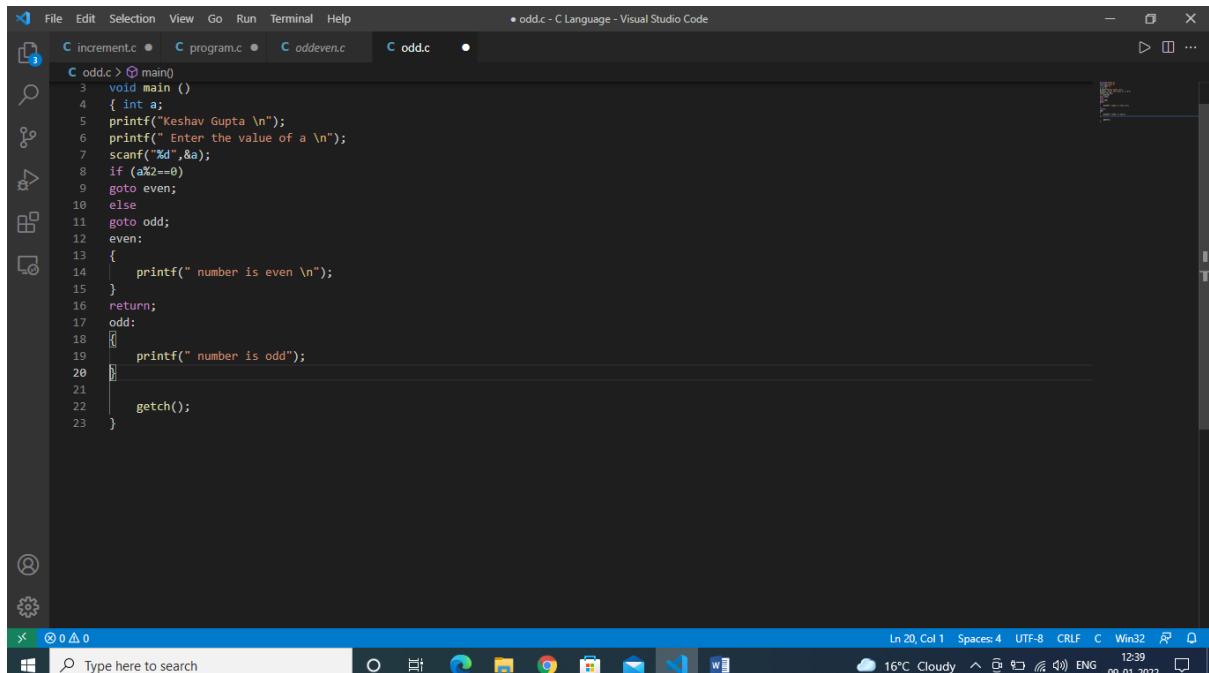
The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows three files: 'increment.c', 'program.c', and 'greater.c'. 'greater.c' is the active file.
- Code Editor:** Displays the following C code:

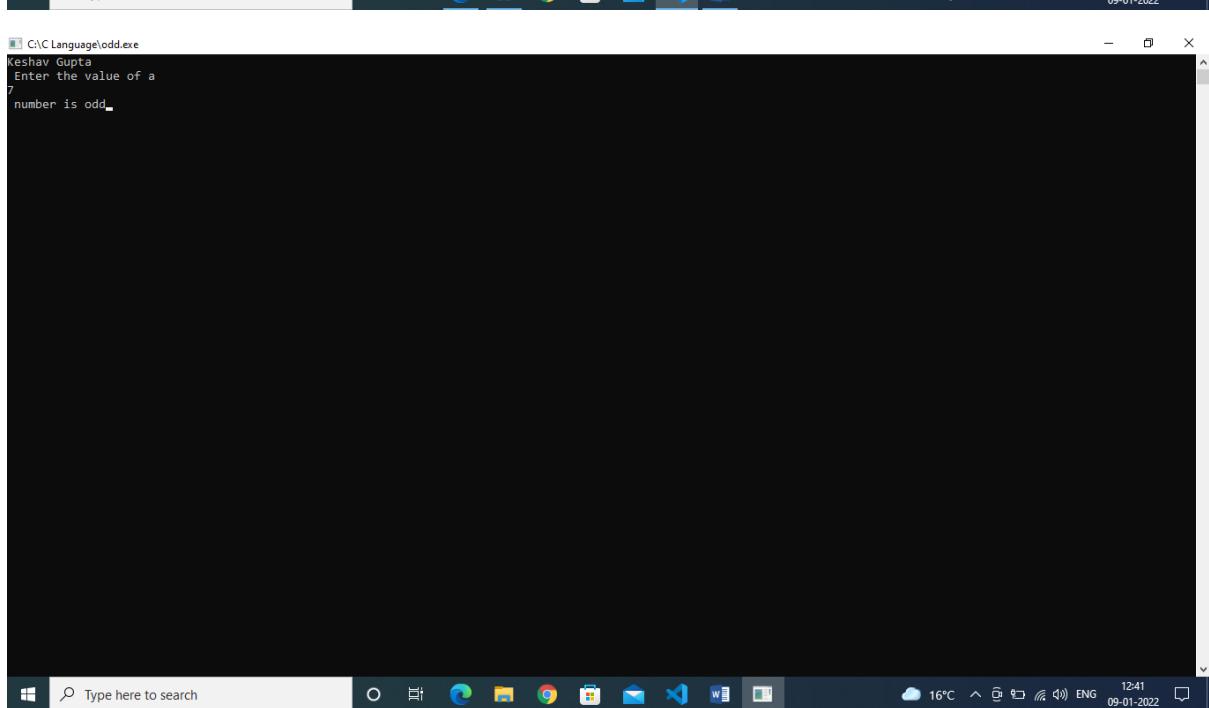
```
4 int a;
5 printf(" Keshav Gupta \n");
6 printf(" enter a number=");
7 scanf("%d\n", &a);
8 if (a >= 100 & a <= 1000)
{
    printf(" this number is between 100 and 1000", a);
}
else
{
    printf(" this number is not between 100 and 1000 ", a);
}
18 getch();
19 }
```
- Terminal:** Shows the command prompt at 'C:\C Language\greater.exe' and the output of the program:

```
Keshav Gupta
enter a number= 900
this number is between 100 and 1000
```
- System Tray:** Shows the date and time as '09-01-2022 12:29'.

## 20. Write a program to print number is odd or even by using goto.



```
C odd.c > main()
3 void main ()
4 { int a;
5 printf("Keshav Gupta \n");
6 printf(" Enter the value of a \n");
7 scanf("%d",&a);
8 if (a%2==0)
9 goto even;
10 else
11 goto odd;
12 even:
13 {
14 | printf(" number is even \n");
15 }
16 return;
17 odd:
18 {
19 | printf(" number is odd");
20 }
21
22 getch();
23 }
```



```
C:\C Language\odd.exe
Keshav Gupta
Enter the value of a
7
number is odd.
```

# 21. Write a program to create a calculator of arithmetic functions using switch case.

```
File Edit Selection View Go Run Terminal Help
C increment.c C program.c C odd.c C switchcase.c C char.c
C switchcase.c > main()
1 #include <stdio.h>
2 #include <conio.h>
3 void main()
4 {
5     int a, b, c, ch;
6     printf(" Keshav Gupta \n");
7     printf(" ENTER VALUE OF A \n");
8     scanf("%d", &a);
9     printf(" enter the value of b \n");
10    scanf("%d", &b);
11    printf("Arithmetic Function \n");
12    printf(" 1.add \n");
13    printf(" 2.sub \n");
14    printf(" 3.mul \n");
15    printf(" 4.div \n");
16    printf(" 5.Modules \n");
17    printf(" enter your choice \n");
18    scanf("%d", &ch);
19    switch (ch)
20    {
21        case 1:
22            c = a + b;
23            printf(" %d", c);
24            break;
25        case 2:
26            c = a - b;
27            printf(" %d", c);
28            break;
29        case 3:
30            c = a * b;
31            printf(" %d", c);
32            break;
33        case 4:
34            c = a / b;
35            printf(" %d", c);
36            break;
37        case 5:
38            c = a % b;
39            printf(" %d", c);
40            break;
41        default:
42            printf("wrong input \n");
43    }
44
45
46
47 }
```

```
File Edit Selection View Go Run Terminal Help
C increment.c C program.c C odd.c C switchcase.c C char.c
C switchcase.c > main()
17     printf(" enter your choice \n");
18     scanf("%d", &ch);
19     switch (ch)
20     {
21         case 1:
22             c = a + b;
23             printf(" %d", c);
24             break;
25         case 2:
26             c = a - b;
27             printf(" %d", c);
28             break;
29         case 3:
30             c = a * b;
31             printf(" %d", c);
32             break;
33         case 4:
34             c = a / b;
35             printf(" %d", c);
36             break;
37         case 5:
38             c = a % b;
39             printf(" %d", c);
40             break;
41         default:
42             printf("wrong input \n");
43     }
44
45
46
47 getch();
```

```
C:\C Language\switchcase.exe
Keshav Gupta
ENTER VALUE OF A
4
enter the value of b
5
Arithmatic Function
1.add
2.sub
3.mul
4.div
5.Modulas
enter your choice
3
20
```

Windows Type here to search O E G C 15°C ENG 13:01 09-01-2022

## 22. Write a program to demonstrate size of operators.

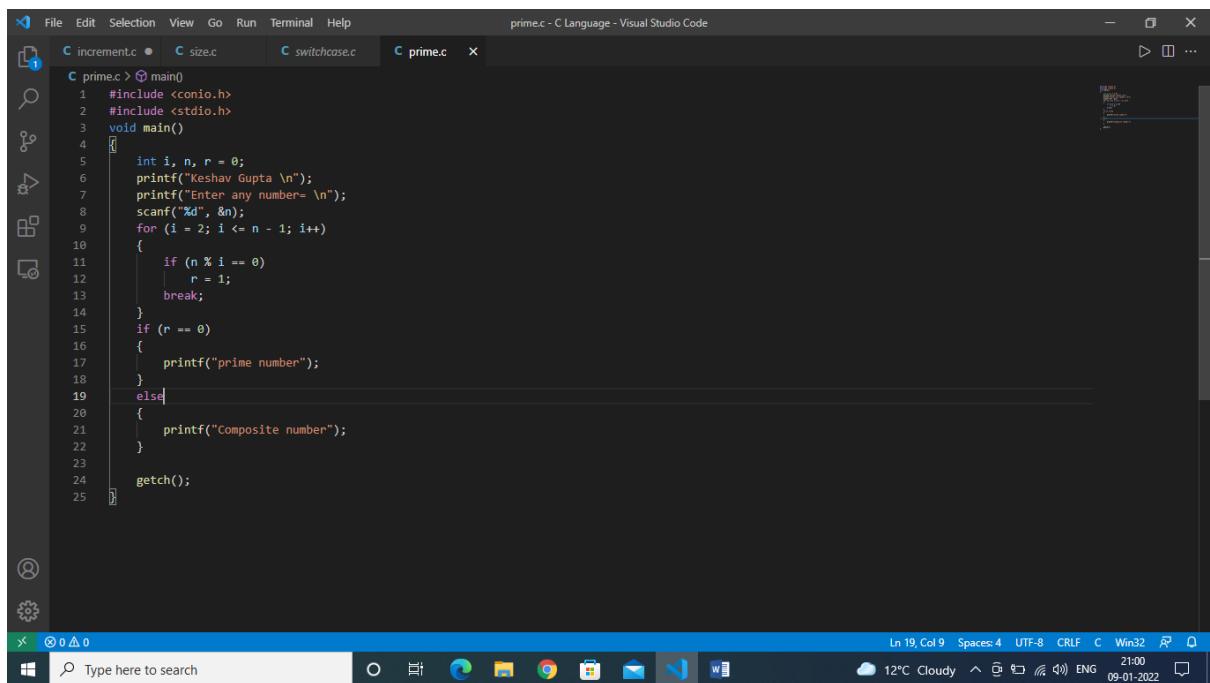
The screenshot shows the Visual Studio Code interface with a dark theme. A file named 'size.c' is open in the editor, containing the following C code:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    printf(" Keshav Gupta \n");
    printf("%lu \n", sizeof(char));
    printf("%lu \n", sizeof(int));
    printf("%lu \n", sizeof(float));
    printf("%lu \n", sizeof(double));
}
getch();
```

The status bar at the bottom of the code editor indicates the file is in C language mode, with line 9, column 38, spaces: 4, and encoding: UTF-8. The date and time are 09-01-2022 20:44.

The screenshot shows a Windows terminal window titled 'C:\C Languages\size.exe'. The output of the program is displayed, showing the name 'Keshav Gupta' followed by the sizes of various data types: 1, 4, 4, and 8. The taskbar at the bottom shows other open applications like File Explorer, Edge, and File Manager. The system tray indicates it's 12°C, cloudy, and the date and time are 09-01-2022 20:44.

## 23. Write a program to check that number is prime or not.



The screenshot shows a Visual Studio Code interface with a dark theme. The left sidebar displays several open files: increment.c, size.c, switchcase.c, and prime.c. The prime.c file is currently active and contains the following code:

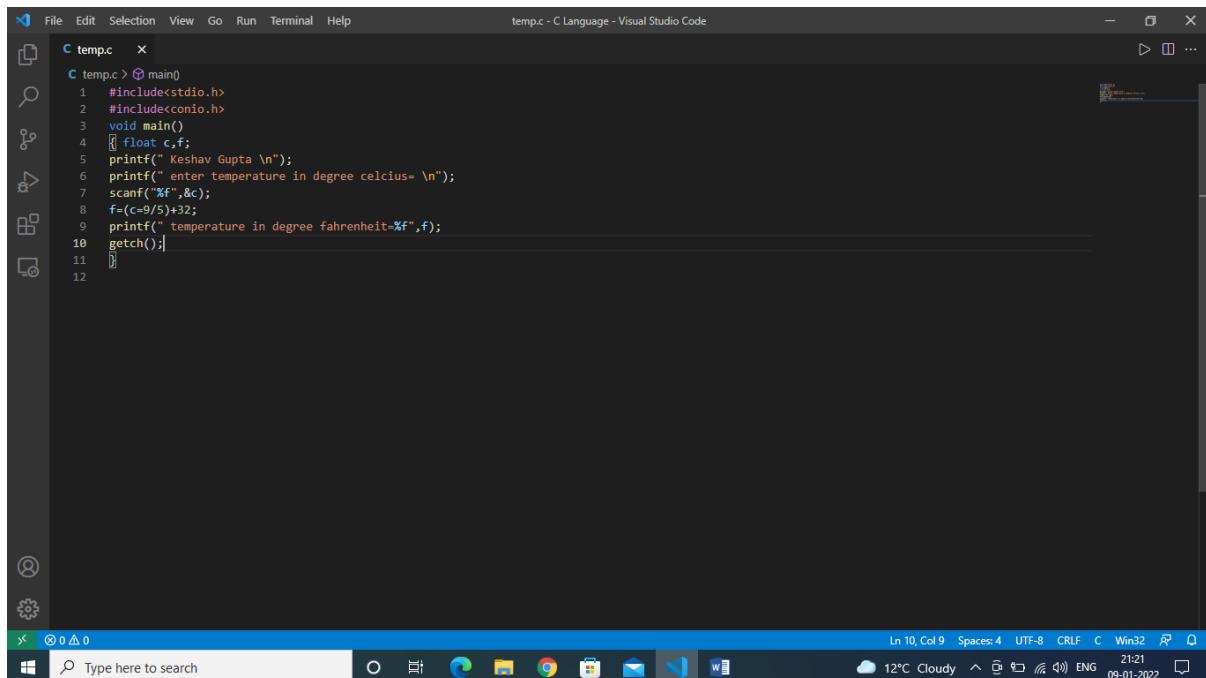
```
#include <conio.h>
#include <stdio.h>
void main()
{
    int i, n, r = 0;
    printf("Keshav Gupta \n");
    printf("Enter any number= \n");
    scanf("%d", &n);
    for (i = 2; i <= n - 1; i++)
    {
        if (n % i == 0)
            r = 1;
        break;
    }
    if (r == 0)
    {
        printf("prime number");
    }
    else
    {
        printf("Composite number");
    }
    getch();
}
```

The status bar at the bottom shows the following information: Ln 19, Col 9, Spaces: 4, UTF-8, CRLF, C, Win32, 21:00, 12°C Cloudy, ENG, 09-01-2022.

```
C:\C Language\prime.exe
Keshav Gupta
Enter any number=
4
Composite number
```

Windows Type here to search O E G C 12°C ENG 09-01-2022 21:01

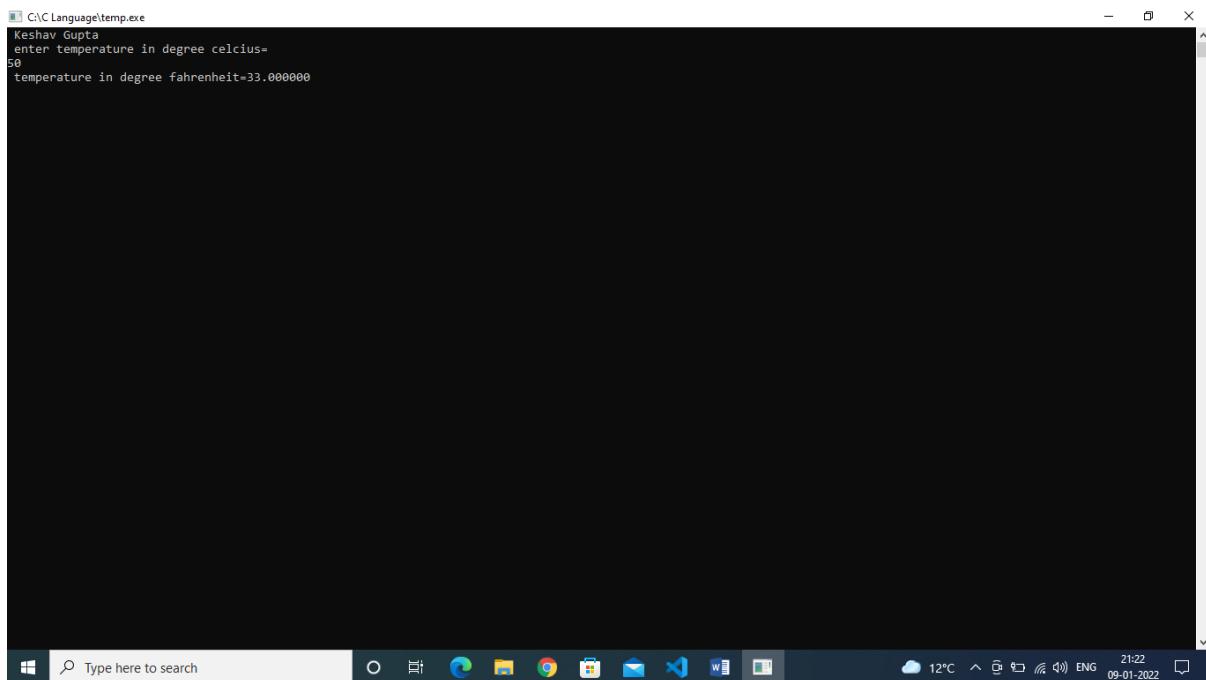
## 24. Write a program to convert celcius into fahrenheit.



The screenshot shows the Visual Studio Code interface with a dark theme. A file named "temp.c" is open in the editor. The code is as follows:

```
#include<stdio.h>
#include<conio.h>
void main()
{
    float c,f;
    printf(" Keshav Gupta \n");
    printf(" enter temperature in degree celcius= \n");
    scanf("%f",&c);
    f=(c*9/5)+32;
    printf(" temperature in degree fahrenheit=%f",f);
    getch();
}
```

The status bar at the bottom indicates the file is "temp.c - C Language - Visual Studio Code".



The screenshot shows a Windows terminal window titled "C:\C Language\temp.exe". The output is:

```
Keshav Gupta
enter temperature in degree celcius=
50
temperature in degree fahrenheit=33.000000
```

The status bar at the bottom indicates the time is 21:21 and the date is 09-01-2022.

## 25. Write a program to find simple interest and compound interest.

The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows three files: temp.c, program.c, and interest.c. interest.c is the active file.
- Code Editor:** Displays the C code for calculating simple and compound interest. The code includes #include directives for stdio.h, conio.h, and math.h, a main function, and calculations for SI and CI based on user input for time, principle, and rate.
- Terminal:** Shows the output of the program. It starts with "Keshav Gupta", followed by prompts for time (5), principle (1000), and rate (4). The output shows simple interest as 200.000000 and compound interest as 0.000313.
- Taskbar:** At the bottom, it shows the Windows taskbar with the Start button, search bar, and pinned icons for Edge, File Explorer, Task View, Mail, and File Explorer.
- System Tray:** Shows the date (10-01-2022), time (17:15), weather (15°C Partly sunny), and language (ENG).

## 26. Write a program for giving space before and after.

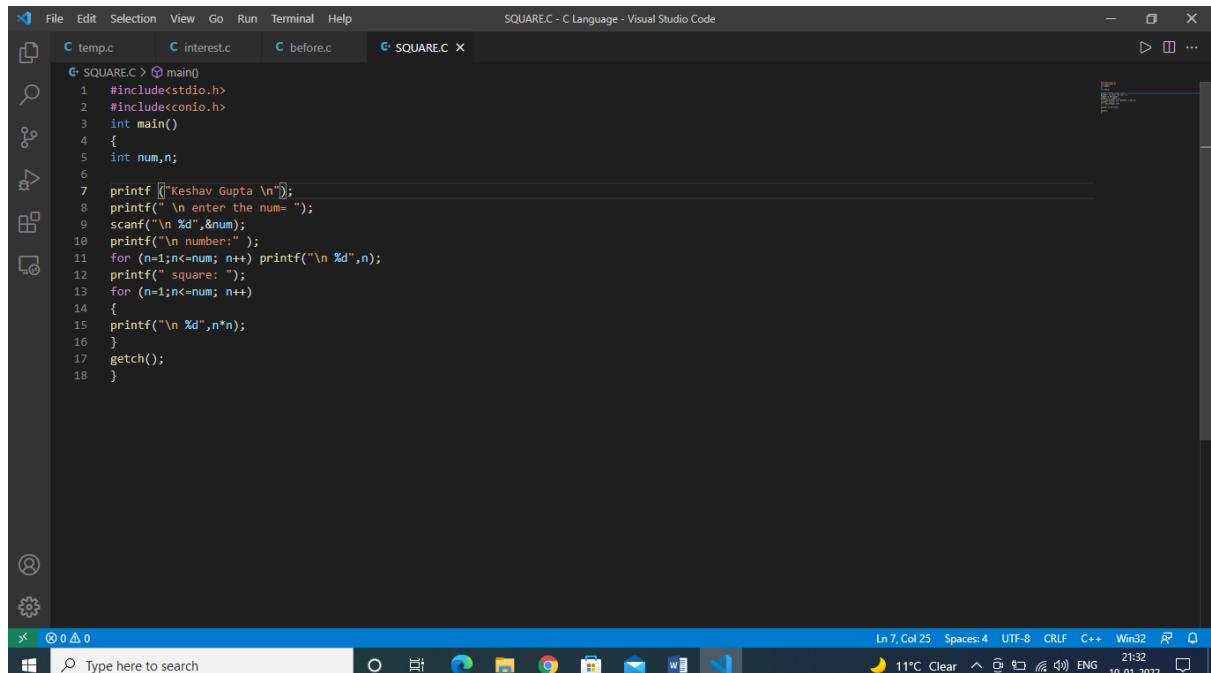
The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows three files: `temp.c`, `interest.c`, and `before.c`.
- Code Editor:** The `before.c` file is open, displaying the following C code:

```
1 #include <conio.h>
2 #include <stdio.h>
3 void main()
4 {
5     char *string = "456";
6     printf("Keshav Gupta \n");
7     printf("enter the value of =%x00.ss", string);
8     getch();
9 }
```
- Terminal:** A terminal window titled `C:\C Language\before.exe` shows the program's output:

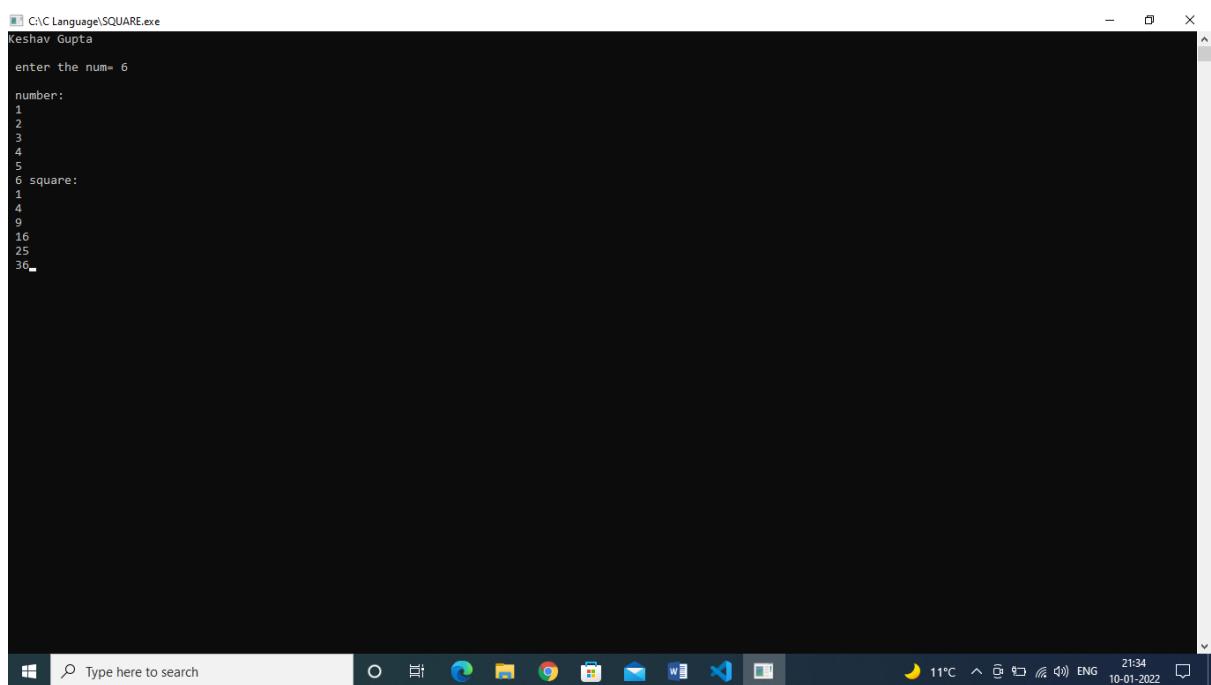
```
Keshav Gupta
enter the value of =
456
```
- Taskbar:** The taskbar at the bottom of the screen shows the Windows Start button, a search bar, and icons for various applications including File Explorer, Edge, and VS Code.
- System Tray:** The system tray displays the date (10-01-2022), time (21:01), battery level, signal strength, and weather information (11°C Clear).

## 27. Write a program to find the SQUARE of following series.



The screenshot shows the Visual Studio Code interface with a dark theme. The left sidebar has icons for file operations like Open, Save, Find, and Run. The main editor area displays a C program named 'SQUARE.C'. The code includes #include directives for stdio.h and conio.h, defines a main function, and uses two nested loops to print numbers and their squares. The status bar at the bottom shows the file path 'C:\C Language\SQUARE.c', line 7, column 25, and other settings like 'Spaces:4' and 'UTF-8'.

```
#include<stdio.h>
#include<conio.h>
int main()
{
    int num,n;
    printf ("Keshav Gupta \n");
    printf (" enter the num= ");
    scanf("%d",&num);
    printf("\n number: ");
    for (n=1;n<=num; n++) printf("\n %d",n);
    printf(" square: ");
    for (n=1;n<=num; n++)
    {
        printf("\n %d",n*n);
    }
    getch();
}
```



The screenshot shows a Windows command prompt window titled 'C:\C Language\SQUARE.exe'. It displays the output of the program, which asks for a number (6), lists integers from 1 to 6, and then lists their squares (1, 4, 9, 16, 25, 36). The status bar at the bottom shows the date and time: '10-01-2022 21:34'.

```
enter the num= 6
number:
1
2
3
4
5
6
square:
1
4
9
16
25
36
```

## 28. Write a program to find the perfect square b/w 1 to 500.

The screenshot shows two windows from the Visual Studio Code interface. The top window displays the code for 'perfect.c' in the C Language editor. The code prompts the user for two numbers and prints all perfect squares between them. The bottom window shows the terminal output of the program being run, displaying the perfect squares from 1 to 441.

```
#include <stdio.h>
#include<conio.h>
#include <math.h>
int main()
{
    int num1, num2, i, n;
    printf("Keshav Gupta \n ");
    printf("\n enter the first number of range= ");
    scanf("%d", &num1);
    printf("\n enter the second number of range= ");
    scanf("%d", &num2);
    for (i = num1; i <= num2; i++)
    {
        n = sqrt(i);
        if (n * n == i)
        {
            printf("\n %d", i);
        }
    }
    getch();
}
```

```
C:\C Language\perfect.exe
Keshav Gupta
enter the first number of range= 1
enter the second number of range=480
1
4
9
16
25
36
49
64
81
100
121
144
169
196
225
256
289
324
361
400
441
```

**29. Write a program to calculate salary of a medical representative based on the sales, bonus and incentives to be offered to him will be based on total sales, if the sales exceed or equal to Rs.100000. Follow the particular of table1 otherwise table2:**

**Table1: Basic=3000rs**

**HRA=20% of basic**

**DA=110% of basic**

**Convene=500rs**

**Incentive=10% of sales**

**sales Bonus=500rs**

**Table: Basic=3000rs**

**HRA=20% of basic**

**DA=110% of basic**

**Convence=500rs**

**Incentive=5% of**

**Bonus=200rs**

The screenshot shows the Visual Studio Code interface with the salary.c file open. The code implements a conditional logic to calculate salary based on total sales. If sales are greater than or equal to 100000, it uses Table 1 calculations; otherwise, it uses Table 2. The terminal window below shows the execution of the program and its output for a total sales input of 100000.

```
salary.c > ① main()
1 #include<stdio.h>
2 #include<conio.h>
3 void main()
4 {
5     int sales;
6     float salary1, salary2;
7
8     printf ("Keshav Gupta \n");
9
10    printf ("\n enter total sales: ");
11    scanf ("%d", &sales);
12    if (sales>=10000)
13        salary1=3000+ (0.2*3000)+(0.1*3000)+500+(sales*0.1)+500;
14    else
15        salary1=3000+(0.2*3000)+(0.1*3000)+500+(sales*0.05)+200;
16    printf ("\n your salary is=%f", salary1);
17
18    if (sales<10000)
19        salary2=3000+(0.2*3000)+(0.1*3000)+500+(sales*0.05)+200;
20    else
21        salary2=3000+ (0.2*3000)+(0.1*3000)+500+(sales*0.1)+500;
22    printf ("\n your salary is=%f", salary2);
23
24    getch();
25 }
```

C:\C Language\salary.exe

```
Keshav Gupta
enter total sales:10000
your salary is=5900.000000
your salary is=0.000000
```

## 30 WRITE A PROGRAM TO PRINT 2'S TABLE.

The screenshot shows the Visual Studio Code interface with a dark theme. The left sidebar displays the file structure under 'OPEN EDITORS' with '30.c' selected. The main editor window contains the following C code:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int num,
        i = 2;
    printf("keshav Gupta \n");
    for (num = 1; num <= 10; num++)
        printf("%d %d\n", i, num);
    getch();
}
```

The status bar at the bottom shows 'Ln 10, Col 48' and other system information like temperature and date.

A separate screenshot shows a Windows terminal window titled 'C:\Users\HP\c codes\30.exe'. The window displays the output of the program, which is the multiplication table for 2 from 1 to 10. The output is:

```
keshav Gupta
2*1=2
2*2=4
2*3=6
2*4=8
2*5=10
2*6=12
2*7=14
2*8=16
2*9=18
2*10=20
```

The terminal window has a blue header bar and a white body. The status bar at the bottom shows '19°C Haze' and other system information.

## 31 WRITE A PROGRAM TO PRINT FACTORIAL.

The screenshot shows the Visual Studio Code interface with a C code editor and a terminal window below it.

**Code Editor:**

```
1 #include <stdio.h>
2 #include <conio.h>
3 void main()
4 {
5     int i, factorial = 1, number;
6     printf("keshav Gupta \n");
7     printf("please enter number \n");
8     scanf("%d", &number);
9     for (i = 1; i <= number; i++)
10    {
11        factorial = factorial * i;
12    }
13    printf("factorial of %d=%2d\n", number, factorial);
14
15    getch();
16 }
```

**Terminal Window:**

```
C:\Users\HP\c codes>31.exe
keshav Gupta
please enter number
5
factorial of 5=120
```

## 32 WRITE A PROGRAM TO REVERSE A NUMBER.

The screenshot shows the Visual Studio Code interface with a C program named '32.c' open in the editor. The code uses a while loop to reverse a given number by extracting digits from the right side and building a new number. It includes standard input/output headers and handles user input for the number. Below the editor, two terminal windows show the execution of the program. The first terminal window shows the user's input and the program's output, which is the reversed number '65'. The second terminal window is identical and appears to be a duplicate or a later run of the same command.

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int n,reverse=0,row;
    printf("keshav gupta \n");
    printf("enter a number \n");
    scanf("%d",&n);
    while (n!=0)
    {
        row=n%10;
        reverse=reverse*10+row;
        n/=10;
    }
    printf("reversed number:%d",reverse);
    getch();
}
```

C:\Users\HP\c codes\32.exe  
keshav gupta  
enter a number  
56  
reversed number:65

18°C Haze 21:49 07-02-2022

18°C Haze 21:50 07-02-2022

### 33 WRITE A PROGRAM USING FOR LOOP.

The screenshot shows a Visual Studio Code interface with a dark theme. The left sidebar has an 'EXPLORER' view with files like '30.c', '31.c', '32.c', and '33.c'. The main editor window displays the following C code:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int i = 0;
    printf("Keshav Gupta \n");
    for (i = 0; i < 10; i++)
    {
        printf("%d \n", i);
    }
    getch();
}
```

The status bar at the bottom shows 'Ln 6, Col 28' and 'CRLF'. Below the editor is a terminal window titled 'C:\Users\HP\c codes\33.exe' which displays the output of the program:

```
Keshav Gupta
0
1
2
3
4
5
6
7
8
9
```

The taskbar at the bottom includes icons for File Explorer, Task View, Edge, Mail, Google Chrome, Word, and Excel.

### 34 WRITE A PROGRAM USING WHILE LOOP.

The screenshot shows the Visual Studio Code interface with a dark theme. The Explorer sidebar on the left lists several files under 'C CODES' and 'OPEN EDITORS'. The '34.c' file is open in the editor, displaying the following C code:

```
1 #include <stdio.h>
2 #include <conio.h>
3 void main()
4 {
5     int i = 1;
6     printf("Keshav Gupta \n");
7     while (i <= 11)
8     {
9         printf("%d \n", i);
10        i++;
11    }
12
13    getch();
14 }
```

The status bar at the bottom of the code editor shows the file path 'C:\Users\HP\c codes\34.exe', line 'Ln 11, Col 6', and encoding 'UTF-8'. Below the code editor is a terminal window titled 'Terminal' showing the output of the program:

```
C:\Users\HP\c codes\34.exe
Keshav Gupta
1
2
3
4
5
6
7
8
9
10
11
```

The terminal window also has a status bar at the bottom showing the file path 'C:\Users\HP\c codes\34.exe', line 'Ln 11, Col 6', and encoding 'UTF-8'. The system tray at the bottom of the screen shows the date and time as '07-02-2022 22:07'.

## 35 WRITE A PROGRAM USING NESTED LOOP.

The screenshot shows the Visual Studio Code interface with a C program named 35.c open in the editor. The code uses nested loops to print a multiplication table. The terminal window below shows the program's execution and output.

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int n, j, i;
    printf("Keshav Gupta \n");
    printf("enter a number");
    scanf("%d", &n);
    for (i = 1; i <= n; i++)
    {
        for (j = 1; j <= n; j++)
        {
            printf("%d\t", (i * j));
        }
        printf("\n");
    }
    getch();
}
```

C:\Users\HP\c codes\35.exe

Keshav Gupta

enter a number 7

1	2	3	4	5	6	7
2	4	6	8	10	12	14
3	6	9	12	15	18	21
4	8	12	16	20	24	28
5	10	15	20	25	30	35
6	12	18	24	30	36	42
7	14	21	28	35	42	49

## 36 WRITE A PROGRAM USING DO WHILE LOOP.

The screenshot shows the Visual Studio Code interface with a dark theme. In the Explorer sidebar, there are several files listed under 'C CODES'. The file '36.c' is selected and open in the main editor area. The code is as follows:

```
1 #include <stdio.h>
2 #include <conio.h>
3 void main()
4 {
5     int a = 10;
6     printf("Keshav Gupta \n");
7     do
8     {
9         if (a == 15)
10        {
11            a = a + 1;
12            continue;
13        }
14        printf("value of a:%d \n", a);
15        a++;
16    } while (a < 19);
17    getch();
18 }
```

The status bar at the bottom of the code editor shows: Ln 16, Col 6, Spaces:4, UTF-8, C, Win32, 22:46, 17°C Haze, ENG, 07-02-2022.

A separate screenshot shows a Windows Command Prompt window titled 'C:\Users\HP\c codes\36.exe'. The output of the program is displayed, showing the value of 'a' from 10 to 18, with a break in the sequence at 15 due to the 'continue' statement. The status bar at the bottom of the terminal window shows: C:\Users\HP\c codes\36.exe, 17°C Haze, ENG, 07-02-2022, 22:46.

### 37 WRITE A PROGRAM TO PRINT REVERSE NO. 100-1 FROM FOR LOOP

The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows multiple C files and executables in the "C CODES" folder.
- Code Editor:** The file "37.c" is open, containing the following C code:

```
1 #include <stdio.h>
2 #include <conio.h>
3 void main()
4 {
5     int num1, num2;
6     printf("Keshav Gupta \n");
7     printf("Enter the 1st number");
8     scanf("%d", &num1);
9     printf("Enter the 2nd number");
10    scanf("%d", &num2);
11    for [num1; num2 <= num1; num1 --]
12    {
13        printf("\t %d", num1);
14    }
15 }
```
- Terminal:** Shows the command "37.c - c codes - Visual Studio Code".
- Status Bar:** Displays "In 11, Col 37" and "Spaces: 4" along with other system information.
- Output Window:** Shows the execution of the program. It prints "Keshav Gupta" and then asks for two numbers. When "100" and "1" are entered, it prints the numbers from 100 down to 1 in reverse order, separated by tabs.
- Taskbar:** Shows the Windows taskbar with various pinned icons.

## 38 WRITE A PROGRAM TO PRINT REVERSE NO. 100-1 FROM DO WHILE LOOP.

The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows a folder structure under "C CODES" containing files 30.c through 38.c and their corresponding executables 30.exe through 38.exe.
- Editor:** The main editor window displays the code for file 38.c. The code is as follows:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int i = 100;
    printf("Keshav Gupta \n");
    do
    {
        printf("\t%d", i);
        i--;
    } while (i >= 1);
    getch();
}
```

- Status Bar:** Shows the current line (Ln 11, Col 6), spaces (Spaces: 4), encoding (UTF-8), file type (C), and build system (Win32).
- Terminal:** Below the editor, there are two terminal windows. The top terminal shows the output of the program execution:

```
C:\Users\HP\c codes\38.exe
Keshav Gupta
100  99   98   97   96   95   94   93   92   91   90   89   88   87   86   85   84   83   82   81
80   79   78   77   76   75   74   73   72   71   70   69   68   67   66   65   64   63   62   61   60
59   58   57   56   55   54   53   52   51   50   49   48   47   46   45   44   43   42   41   40   39
38   37   36   35   34   33   32   31   30   29   28   27   26   25   24   23   22   21   20   19   18
17   16   15   14   13   12   11   10   9    8    7    6    5    4    3    2    1
```

- Bottom Status Bar:** Shows the date (07-02-2022), time (23:53), weather (17°C Partly cloudy), and language (ENG).

### 39 WRITE A PROGRAM TO DISPLAY FIBONACCI SERIES.

The screenshot shows a Visual Studio Code interface with the following details:

- File Menu:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Editor Title:** 39.c - c codes - Visual Studio Code
- Explorer:** Shows a tree view of open files and folders. The current file is 39.c, which is selected. Other files listed include 30.c, 31.c, 32.c, 33.c, 34.c, 35.c, 36.c, 37.c, 38.c, and 39.exe.
- Code Editor:** Contains the following C code:

```
1 #include<stdio.h>
2 #include<conio.h>
3 void main()
4 {
5     int i,n;
6     int t1=0, t2=1;
7     int nextterm=t1+t2;
8     printf("Keshav Gupta\n");
9     printf("Enter the number of terms:");
10    scanf("%d",&n);
11    printf("Fibonacci series:%d,%d,",t1,t2);
12    for (i=3; i<=n; ++i)
13    {
14        printf("%d",nextterm);
15        t1=t2;
16        t2=nextterm=t1+t2;
17    }
18 getch();
```
- Status Bar:** Shows Ln 18, Col 9, Spaces: 4, UTF-8, CRLF, C, Win32, 00:17, 18°C Mostly cloudy, ENG, 08-02-2022.
- Terminal:** Shows the output of the program. It prints "Keshav Gupta", prompts for the number of terms (10), and then displays the Fibonacci series: 0,1,1248163264128.
- Taskbar:** Shows the Windows taskbar with various pinned icons like File Explorer, Edge, Mail, Photos, and Task View.

## 40 WRITE A PROGRAM TO PRINT PRIME NUMBER USING WHILE LOOP.

The screenshot shows the Visual Studio Code interface with a dark theme. The Explorer sidebar on the left lists several C code files, including '40.c' which is currently open. The code editor window displays the following C program:

```
1 #include<stdio.h>
2 #include<conio.h>
3 void main ()
4 {
5     int num,c=0,i=1;
6     printf("Keshav Gupta \n");
7     printf("enter the number=");
8     scanf("%d",&num);
9     do
10    { if (num%i==0)
11        {c++; }
12    i++;
13    }
14    while (i<=num);
15    if (c==2)
16        printf("number is prime");
17    else
18        printf("number is not prime");
19    getch();
20 }
```

The status bar at the bottom of the code editor shows the file path 'C:\Users\HP\c codes\40.exe', line 'Ln 19, Col 5', and encoding 'UTF-8'. Below the code editor is a terminal window titled 'Terminal' showing the output of the program:

```
C:\Users\HP\c codes\40.exe
Keshav Gupta
enter the number=24
number is not prime
```

The taskbar at the bottom of the screen includes icons for File Explorer, Task View, Edge, Mail, Photos, OneDrive, and Google Chrome. The system tray shows the date '08-02-2022', time '00:25', and weather information '18°C Mostly cloudy'.

## 41 WRITE A PROGRAM TO PRINT WHETHER IT IS A LEAP YEAR OR NOT?

The screenshot shows the Visual Studio Code interface with a dark theme. The left sidebar (Explorer) lists several C files. The main editor window contains the following C code:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int year ;
    printf("Keshav Gupta \n");
    printf("\n enter the year:");
    scanf("%d",&year);
    if
        (year%4==0)
    {
        printf("this is a leap year");
    }
    else
    {
        printf ("this is not a leap year");
    }
    getch();
}
```

The status bar at the bottom shows the file path as C:\Users\HP\c codes\41.exe, the current line as Ln 25, Col 2, and the date/time as 08-02-2022 00:34.

Below the code editor is a terminal window showing the execution of the program:

```
C:\Users\HP\c codes\41.exe
Keshav Gupta

enter the year:2003
this is not a leap year.
```

The terminal status bar shows the date/time as 08-02-2022 00:35.

## 42 WRITE A PROGRAM TO PRINT 1-D ARRAY ELEMENTS.

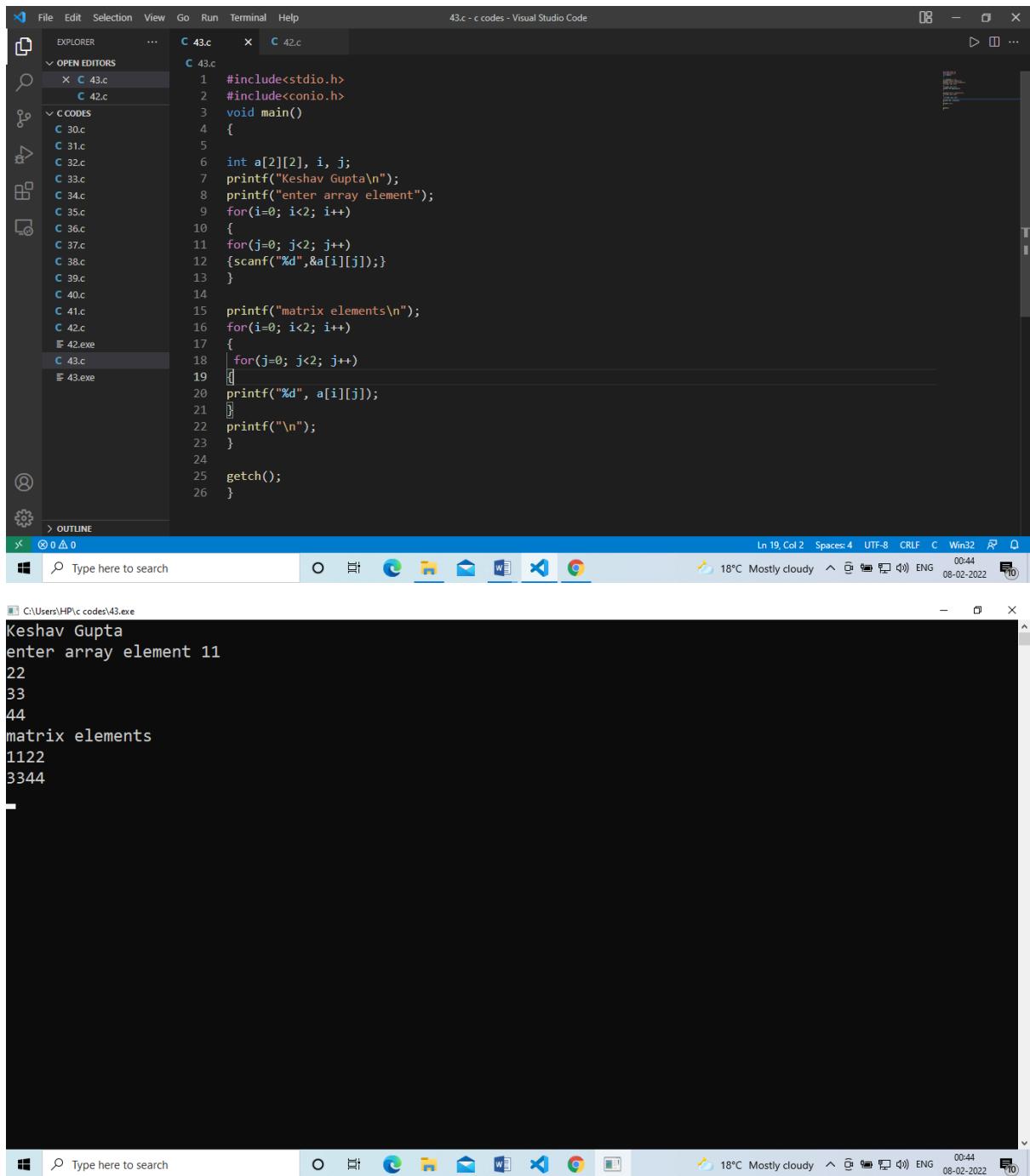
The screenshot shows the Visual Studio Code interface with a dark theme. In the Explorer sidebar, there are several files listed under 'C CODES'. The file '42.c' is currently open in the editor. The code prints the elements of an array 'a' to the console. The terminal window below shows the execution of the program and its output.

```
#include<stdio.h>
#include<conio.h>
int a[5]={70,90,68,73,75};
void main()
{
    int i;
    printf("Keshav Gupta \n");
    for(i=0; i<5; i++)
    {
        printf ("%3d", a[i]);
    }
    getch();
}
```

C:\Users\HP\c codes\42.exe

Keshav Gupta  
70 90 68 73 75

## 43 WRITE A PROGRAM TO PRINT MATRICES IN 2-D ARRAY.



The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows multiple C files (43.c, 42.c, 30.c, 31.c, 32.c, 33.c, 34.c, 35.c, 36.c, 37.c, 38.c, 39.c, 40.c, 41.c, 42.c, 43.c, 43.exe) and an executable file (43.exe).
- Code Editor:** Displays the content of the 43.c file, which is a C program to print a 2D matrix. The code includes #include<stdio.h>, #include<conio.h>, and a main() function that prompts for array elements and prints them.
- Terminal:** Shows the output of the program execution. The terminal window title is "C:\Users\HP\c codes\43.exe". The output text is:

```
Keshav Gupta
enter array element 11
22
33
44
matrix elements
1122
3344
```
- System Tray:** Shows the date (08-02-2022), time (00:44), weather (18°C Mostly cloudy), and language (ENG).

## 44 WRITE A PROGRAM TO PRINT MAXIMUM NUMBER BY USING ARRAY.

The screenshot shows the Visual Studio Code interface with a dark theme. The Explorer sidebar on the left lists several C code files and executables. The main editor window displays the following C code:

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int ary[5], i, max=0;
    printf("Keshav Gupta \n");
    printf ("enter the five elements of array: ");
    for(i=0; i<5; i++)
    {
        scanf("%d", &ary[i]);
    }
    for(i=0; i<5; i++)
    {
        if (max<ary[i])
        {
            max=ary[i];
        }
    }
    printf("maximum value is %d", max);
    getch();
}
```

The status bar at the bottom shows the file path as C:\Users\HP\c codes\44.exe, and the terminal output window below it shows the execution of the program:

```
C:\Users\HP\c codes\44.exe
Keshav Gupta
enter the five elements of array: 55
83
87
63
74
maximum value is 87
```

## 45 WRITE A PROGRAM TO CHECK WHETHER THE NUMBER IS ARMSTRONG.

The screenshot shows the Visual Studio Code interface with the following details:

- File Menu:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Terminal:** Shows the command "45c - c codes - Visual Studio Code".
- Explorer:** Shows the file structure under "C CODES" and "OPEN EDITORS". The file "45.c" is selected in the terminal tab.
- Code Editor:** Displays the C code for checking Armstrong numbers. The code includes comments, variable declarations, a loop to calculate digits, and an if-else condition to check if the number is Armstrong.
- Status Bar:** Shows line 13, column 22, spaces: 4, UTF-8, CRLF, Win32, and the date/time 08-02-2022.
- Taskbar:** Shows the Windows taskbar with the application name "Type here to search" and various pinned icons.
- Bottom Window:** Shows the output of the program execution. It prints "Keshav Gupta", prompts for a number ("Enter the number: 152"), and then outputs "the number is not armstrong".

#### 46 WRITE A PROGRAM TO CHECK A NUMBER IS PALINDROME OR NOT.

The screenshot shows the Visual Studio Code interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Editor Area:** The file `C 46.c` is open, containing C code to check if a number is a palindrome. The code uses `#include <stdio.h>` and `#include <conio.h>`. It defines a function `main()` that reads a number from the user, reverses it, and compares it with the original number to determine if it's a palindrome.
- Explorer Bar:** Shows a tree view of C codes, with `C 46.c` selected. Other files listed include `C 30.c`, `C 31.c`, `C 32.c`, `C 33.c`, `C 34.c`, `C 35.c`, `C 36.c`, `C 37.c`, `C 38.c`, `C 39.c`, `C 40.c`, `C 41.c`, `C 42.c`, `C 43.c`, `C 44.c`, `C 45.c`, and `C 46.c`.
- Bottom Status Bar:** Shows the current line (Ln 14, Col 20), spaces (Spaces: 4), encoding (UTF-8), and file type (C). It also displays the date and time (08-02-2022, 09:57).

The screenshot shows a terminal window with the following details:

- Title Bar:** C:\Users\HP\c codes\46.exe
- Output:** The terminal displays the following text:

```
keshav Gupta
Enter any number
123
Not palindrome
```
- Bottom Status Bar:** Shows the current line (Ln 14, Col 20), spaces (Spaces: 4), encoding (UTF-8), and file type (C). It also displays the date and time (08-02-2022, 09:57).

**47 WRITE A PROGRAM TO COUNT THE NUMBER OF STUDENTS HAVING AGE LESS THAN 25 AND WEIGHT LESS THAN 50KG.**

The screenshot shows the Visual Studio Code interface with a dark theme. The left sidebar displays the 'EXPLORER' view with a list of files under 'C CODES'. The main editor window contains a C program named '47.c'. The code prompts the user for age and weight, then uses an if-else condition to check if either is less than or equal to 25 and 50 respectively. It prints 'condition is true' if both are true, and 'condition is false' otherwise. The status bar at the bottom shows the file path 'C:\Users\HP\c codes\47.exe', the line and column numbers 'Ln 19, Col 13', and the date and time '08-02-2022 10:10'.

```
1 #include<stdio.h>
2 #include<conio.h>
3 void main()
4 {
5     int age,weight;
6     printf("Keshav Gupta \n");
7     printf("Enter the age: \n");
8     scanf("%d",&age);
9     printf("Enter the weight: \n");
10    scanf("%d",&weight);
11    do
12    {
13        if (age<=25|| weight<=50)
14            {printf(" condition is false \n");}
15        else
16            {printf(" condition is true \n");}
17    }
18    while(age<=25&&weight<=50);
19    getch();
20 }
```

C:\Users\HP\c codes\47.exe  
Keshav Gupta  
Enter the age:  
23  
Enter the weight:  
54  
condition is false

#### **48 WRITE A PROGRAM TO SHOW INCREMENT.**

The screenshot shows the Visual Studio Code interface with a dark theme. The left sidebar displays a file tree under 'OPEN EDITORS' with various C files and executables. The main editor window contains the following C code:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int a = 2, b;
    printf("Keshav Gupta \n");
    printf("Initial Value of a is %d \n", a);
    b = ++a;
    printf("Value of increment is =%d \n", b);
    getch();
}
```

The status bar at the bottom shows the file path 'C:\Users\HP\codes\48.exe', the current line 'Ln 8, Col 13', and the date/time '08-02-2022 10:18'. Below the editor is a terminal window titled 'C:\Users\HP\codes\48.exe' showing the execution of the program. The terminal output is:

```
Keshav Gupta
Initial Value of a is 2
Value of increment is =3
```

The taskbar at the bottom of the screen includes icons for File Explorer, Task View, Edge browser, Mail, Google Chrome, Teams, Word, and Excel, along with the Visual Studio Code icon.

#### 49 WRITE A PROGRAM TO SHOW DECREMENT.

The screenshot shows the Visual Studio Code interface. The left sidebar displays a file tree under 'OPEN EDITORS' with files like 30.c through 48.c, 49.c, and 49.exe. The main editor window contains the following C code:

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int a = 2, b;
    printf("Keshav Gupta \n");
    printf("Initial Value of a is %d \n", a);
    b = --a;
    printf("Value of increment is =%d \n", b);

    getch();
}
```

The status bar at the bottom shows 'Ln 11, Col 1' and other system information.

The screenshot shows a terminal window titled 'C:\Users\HP\c codes\49.exe'. The window displays the following text:

```
Keshav Gupta
Initial Value of a is 2
Value of increment is =1
```

The status bar at the bottom shows '16°C Mostly sunny' and other system information.

**50 WRITE A PROGRAM TO DEMONSTRATE THE USE OF BREAK KEYWORD.**

The screenshot shows the Visual Studio Code interface with a dark theme. The left sidebar displays the file tree under 'OPEN EDITORS' and 'C CODES'. The main editor window contains the following C code:

```
1 #include<stdio.h>
2 #include<conio.h>
3 void main()
4 {
5     int a=0;
6     printf("Keshav Gupta \n");
7     printf("Enter the value of a:");
8     scanf("%d",&a);
9     while(a<10)
10    {
11        printf("value of a is %d \n",a);
12        if (a==5)
13            break;
14        a++;
15    }
16
17 }
```

The status bar at the bottom indicates the code is in 'C' mode, with line 15, column 1, spaces: 4, and encoding: UTF-8. The terminal window below shows the execution of the program:

```
C:\Users\HP\c codes\50.exe
Keshav Gupta
Enter the value of a: 7
value of a is 7
value of a is 8
value of a is 9
```

The taskbar at the bottom of the screen includes icons for File Explorer, Task View, Edge, Mail, Google Chrome, File Explorer, Visual Studio Code, and Word.

**51 WRITE A PROGRAM TO DIAMOND PATTERN (TAKING NUMBER OF ROWS FROM THE USER).**

The screenshot shows the Visual Studio Code interface with the following details:

- File Menu:** File, Edit, Selection, View, Go, Run, Terminal, Help.
- Editor Bar:** 51.c - c codes - Visual Studio Code
- Explorer Bar:** Shows a tree view of files and folders under "OPEN EDITORS" and "C CODES". The file "51.c" is selected in the "OPEN EDITORS" list.
- Code Editor:** Displays the C code for a diamond pattern. The code includes #include directives for stdio.h and conio.h, a main function that reads a number of rows from the user, and nested loops to print the diamond shape.
- Bottom Status Bar:** Shows line 13, column 29, spaces: 4, UTF-8, CRLF, Win32, and a timestamp of 11:49 08-02-2022.
- Bottom Icons:** Includes icons for search, file operations, and other development tools.

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int n, c, k;
    printf("Keshav Gupta \n");
    printf("enter no of rows");
    scanf("%d", &n);
    for (k = 1; k <= n; k++)
    {
        for (c = 1; c <= n - k; c++)
            for (c = 1; c <= 2 * k - 1; c++)
                printf("\n");
        printf("\n");
    }
    for (k = 1; k <= n - 1; k++)
    {
        for (c = 1; c <= k; c++)
            printf("\n");
        for (c = 1; c <= 2 * (n - k) - 1; c++)
            printf("\n");
        printf("\n");
    }
    getch();
}
```

**52 WRITE A PROGRAM TO PRINT GOOD MORNING, GOOD EVENING, GOOD NIGHT USING FUNCTIONS.**

The screenshot shows the Visual Studio Code interface with a dark theme. In the Explorer sidebar, several C files are listed under 'C CODES'. The current file, '52.c', is open in the editor. The code defines a main function that prints 'Keshav Gupta' and then calls three functions: 'morning()', 'evening()', and 'night()'. Each of these functions prints a specific greeting ('good morning', 'good Evening', and 'good night' respectively) followed by a newline character. The terminal window below shows the execution of the program and its output.

```
#include <stdio.h>
#include <conio.h>
void main()
{
    printf("Keshav Gupta \n");
    void morning();
    void evening();
    void night();
    morning();
    evening();
    night();
    getch();
}
void morning()
{
    printf("good morning \n");
}
void evening()
{
    printf(" good Evening \n");
}
void night()
{
    printf("good night \n");
}
```

C:\Users\HP\c codes\52.exe

Keshav Gupta  
good morning  
good Evening  
good night

**53 WRITE A PROGRAM TO CHECK WHETHER THE NUMBER IS GIVEN IS PRIME OR NOT, USING USERDEFINE FUNCTION (WITH ARGUMENT & WITH RETURN TYPE).**

The screenshot shows the Visual Studio Code interface with a C file named '53.c' open in the editor. The code defines a function 'prime' that checks if a given integer is prime. It includes input and output handling with printf and scanf. The code is as follows:

```
#include <stdio.h>
#include <conio.h>
int prime(int n);
void main()
{
    int n, flag;
    printf("Keshav Gupta \n");
    printf("Enter a integer \n");
    scanf("%d", &n);
    flag = prime(n);
    if (flag == 1)
        printf("%d is not a prime number", n);
    else
        printf("%d is a prime number", n);
    getch();
}
int prime(int n)
{
    int i;
    for (i = 2; i <= n / 2; ++i)
    {
        if (n % i == 0)
            getch();
    }
    getch();
}
```

Below the editor, two terminal windows show the execution of the program. The first window shows the output for the number 3, and the second window shows the output for the number 4.

```
C:\Users\HP\c codes\53.exe
Keshav Gupta
Enter a integer
3
3 is a prime number
```

```
16°C Mostly cloudy 11:03 09-02-2022
```

```
16°C 11:03 09-02-2022
```

**54 WRITE A PROGRAM TO CALCULATE THE SQUARE OF NUMBERS FROM 1-5 USING A USER DEFINED FUNCTION. (WITH ARGUMENT & WITHOUT RETURN VALUE).**

The screenshot shows the Visual Studio Code interface. The left sidebar displays a tree view of files under 'OPEN EDITORS' and 'C CODES'. In the center, the code editor window contains the following C program:

```
1 #include <stdio.h>
2 #include <conio.h>
3 void main()
4 {
5     printf("Keshav Gupta \n");
6     int a = 0;
7     void sqr(int);
8     for (a = 1; a <= 5; a++)
9         sqr(a);
10    getch();
11 }
12 void sqr(int b)
13 {
14     printf("Square of number %d\n", b * b);
15 }
```

The status bar at the bottom shows the file path 'C:\Users\HP\c codes\54.c', line 14, column 45, and other system information.

The screenshot shows a terminal window titled 'C:\Users\HP\c codes\54.exe'. The window displays the following text:

```
Keshav Gupta
Square of number 1
Square of number 4
Square of number 9
Square of number 16
Square of number 25
```

The status bar at the bottom shows the file path 'C:\Users\HP\c codes\54.c', line 14, column 45, and other system information.

**55 WRITE A PROGRAM TO CALCULATE THE AVERAGE OF THREE NUMBERS USING FUNCTIONS.  
(WITH ARGUMENT & WITH RETURN VALUE).**

The screenshot shows the Visual Studio Code interface with a dark theme. The Explorer sidebar on the left lists several C files, with 'C 55.c' selected. The main editor area contains the following C code:

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

float average(int a, int b, int c);
void main()
{
    int a, b, c;
    printf("Keshav Gupta \n");
    printf("Enter the value of a\n");
    scanf("%d", &a);
    printf("Enter the value of b\n");
    scanf("%d", &b);
    printf("Enter the value of c\n");
    scanf("%d", &c);
    printf("enter the value of average is %f", average(a, b, c));
    getch();
}

float average(int a, int b, int c)
{
    float result;
    result = (float)(a + b + c) / 3;
    return result;
}
```

The status bar at the bottom indicates the file is 55.c - c codes - Visual Studio Code, with line 20, column 18, spaces: 4, UTF-8, CRLF, and Win32. The taskbar at the bottom shows the Windows Start button, a search bar, and pinned icons for File Explorer, Edge, Mail, Google Chrome, and Visual Studio Code.

A terminal window below the editor shows the execution of the program:

```
C:\Users\HP\c codes\55.exe
Keshav Gupta
Enter the value of a
2
Enter the value of b
4
Enter the value of c
6
enter the value of average is 4.000000
```

The terminal window has a status bar showing 14°C Mostly clear, 22:27, 09-02-2022, and ENG.

**56 WRITE A PROGRAM TO DESCRIBE THE CALL BY REFERENCE CONCEPT IN FUNCTIONS BY SWAPPING TWO VARIABLES WITH THE HELP OF THIRD**

The screenshot shows the Visual Studio Code interface with a C code editor. The file being edited is '56.c'. The code defines a swap function that swaps the values of two integers passed by reference. It also includes a main function that prints the values before and after the swap.

```
#include <stdio.h>
#include <conio.h>
void swap(int *a, int *b);
void main()
{
    int a = 4, b = 3;
    printf("Keshav Gupta \n");
    printf("The value before call by reference is %d and %d \n ",a,b );
    swap(&a, &b);
    printf("The value after call by reference is %d and %d \n" ,a,b );
    getch();
}
void swap(int *a, int *b)
{
    int temp;
    temp = *a;
    *a = *b;
    *b = temp;
}
```

Below the code editor, a terminal window displays the output of the program. The output shows the initial values (4 and 3), the swap operation, and the final values (3 and 4) printed to the console.

```
C:\Users\HP\c codes\56.exe
Keshav Gupta
The value before call by reference is 4 and 3
The value after call by reference is 3 and 4
```

## 57 WRITE A PROGRAM TO SKIP A NUMBER IN SERIES USING CONTINUE.

The screenshot shows the Visual Studio Code interface. The left sidebar displays a tree view of open files, including 'C 56.c' and 'C 57.c'. The main editor window contains the following C code:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int i = 0;
    printf("Keshav Gupta \n");
    while (i <= 10)
    {
        i++;
        if (i == 7)
        {
            continue;
        }
        printf("%d \n", i);
    }
    getch();
}
```

The status bar at the bottom indicates the file is '57.c - c codes - Visual Studio Code'. It also shows line 16, column 6, spaces: 4, UTF-8, C, Win32, and the date/time as 23:34 09-02-2022.

The screenshot shows a terminal window titled 'C:\Users\HP\c codes\57.exe'. The output of the program is displayed, showing the numbers 1 through 11, with the number 7 omitted due to the 'continue' statement in the code. The terminal window has a dark background and light text. The status bar at the bottom indicates the file is '57.c - c codes - Visual Studio Code'. It also shows line 16, column 6, spaces: 4, UTF-8, C, Win32, and the date/time as 23:34 09-02-2022.

```
Keshav Gupta
1
2
3
4
5
6
8
9
10
11
```

**58 WRITE A PROGRAM TO DISPLAY THE FOLLOWING PATTERN N ROWS AND ROWS TAKING THE VALUE OF N FROM THE USER.**

```
/*1  
2 3  
4 5 6  
7 8 9 10  
11 12 13 14 15*/
```

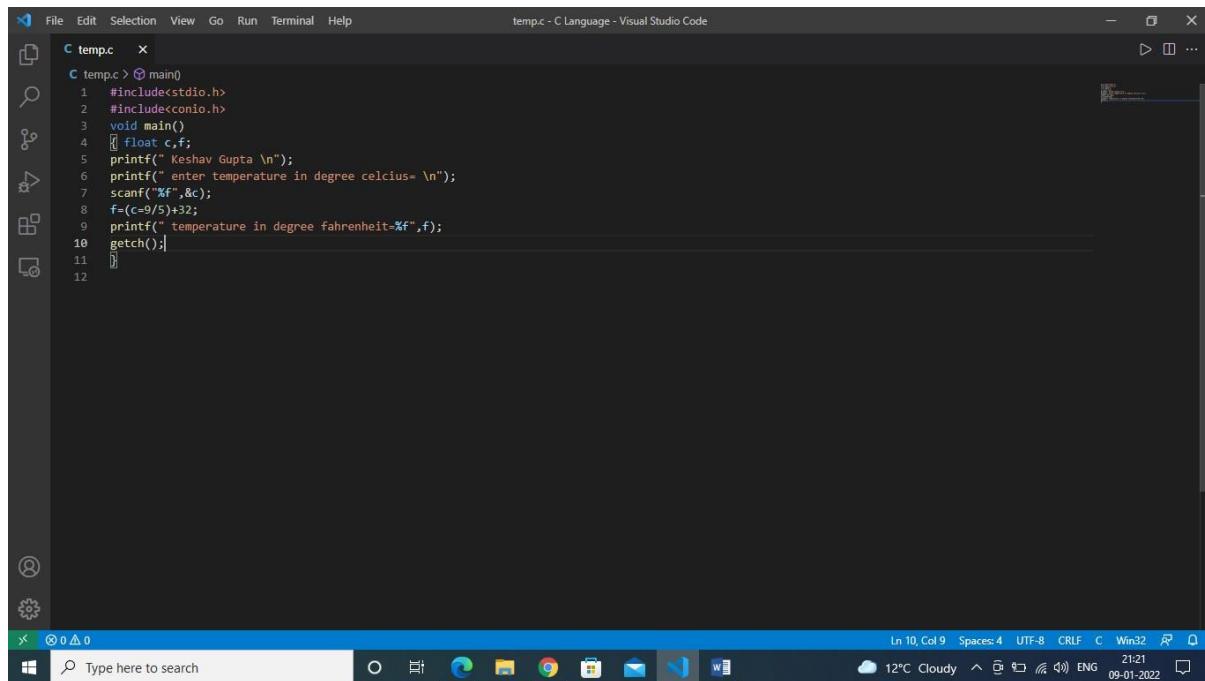
The screenshot shows the Visual Studio Code interface with the file '58.c' open. The code prints "Keshav Gupta \n" and then prompts the user to enter the number of lines. It then uses nested loops to print a pattern of numbers. The code is as follows:

```
#include <stdio.h>
#include <conio.h>
void main()
{
    int line, row, col, value = 0;
    printf("Keshav Gupta \n");
    printf(" Enter the number of lines");
    scanf("%d", &line);
    for (row = 1; row <= line; row++)
    {
        for (col = 1; col <= row; col++)
        {
            printf("%d", value);
            value++;
        }
        printf("\n");
    }
    getch();
}
```

The screenshot shows a terminal window titled 'C:\Users\HP\c codes\58.exe'. The program starts by printing 'Keshav Gupta'. It then asks for the number of lines, which is entered as '5'. The output shows the following pattern:

```
Enter the number of lines5
0
12
345
6789
1011121314
```

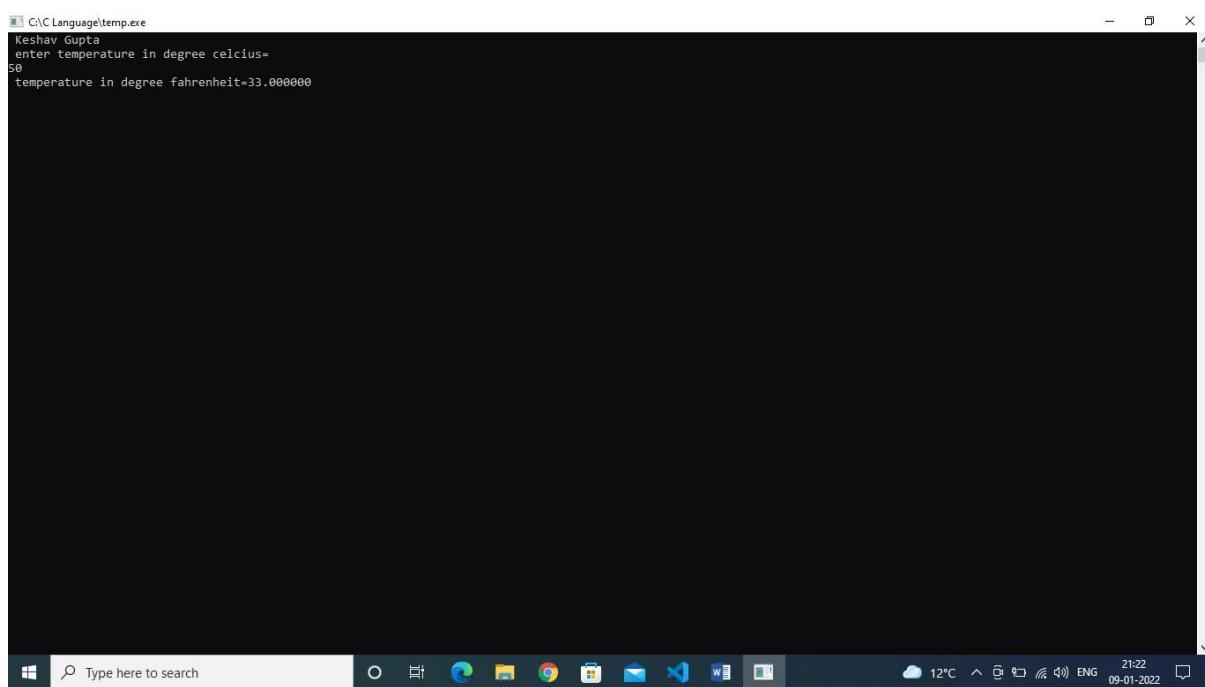
## Q59. Write a program to convert temperature from Celsius to Fahrenheit by taking input from user .



A screenshot of the Visual Studio Code interface. The left sidebar shows a tree view with a single item: 'temp.c'. The main editor area contains the following C code:

```
#include<stdio.h>
#include<conio.h>
void main()
{
    float c,f;
    printf(" Keshav Gupta \n");
    printf(" enter temperature in degree celcius= \n");
    scanf("%f",&c);
    f=(c*9/5)+32;
    printf(" temperature in degree fahrenheit=%f",f);
    getch();
}
```

The status bar at the bottom shows: Ln 10, Col 9, Spaces:4, UTF-8, CRLF, C, Win32.



A screenshot of a Windows terminal window titled 'C:\C Language\temp.exe'. The window displays the following text:

```
Keshav Gupta
enter temperature in degree celcius=
50
temperature in degree fahrenheit=33.000000
```

The status bar at the bottom shows: 12°C Cloudy, 21:21, ENG, 09-01-2022.

## Q60. Write a program to find greatest or maximum of 3 number.

The screenshot shows the Visual Studio Code interface with two files open: 'number.c' and 'greaternumber.c'. The 'number.c' file contains the following C code:

```
1 #include <stdio.h>
2 #include <conio.h>
3 void main()
4 {
5     int a, b, c, greatest;
6     printf(" Keshav Gupta \n");
7     printf(" Enter Three Number \n");
8     scanf(" %d%d%d \n", &a, &b, &c);
9     {
10         if (a > c)
11             if (a > b)
12                 printf(" This number is greater =%d\n", a);
13             else
14                 printf(" This number is greater =%d\n", c);
15     }
16     {
17         if (b > c)
18             printf(" This number is greater =%d\n", b);
19         else
20             printf(" This number is greater =%d\n", c);
21     }
22 }
23 getch();
24
```

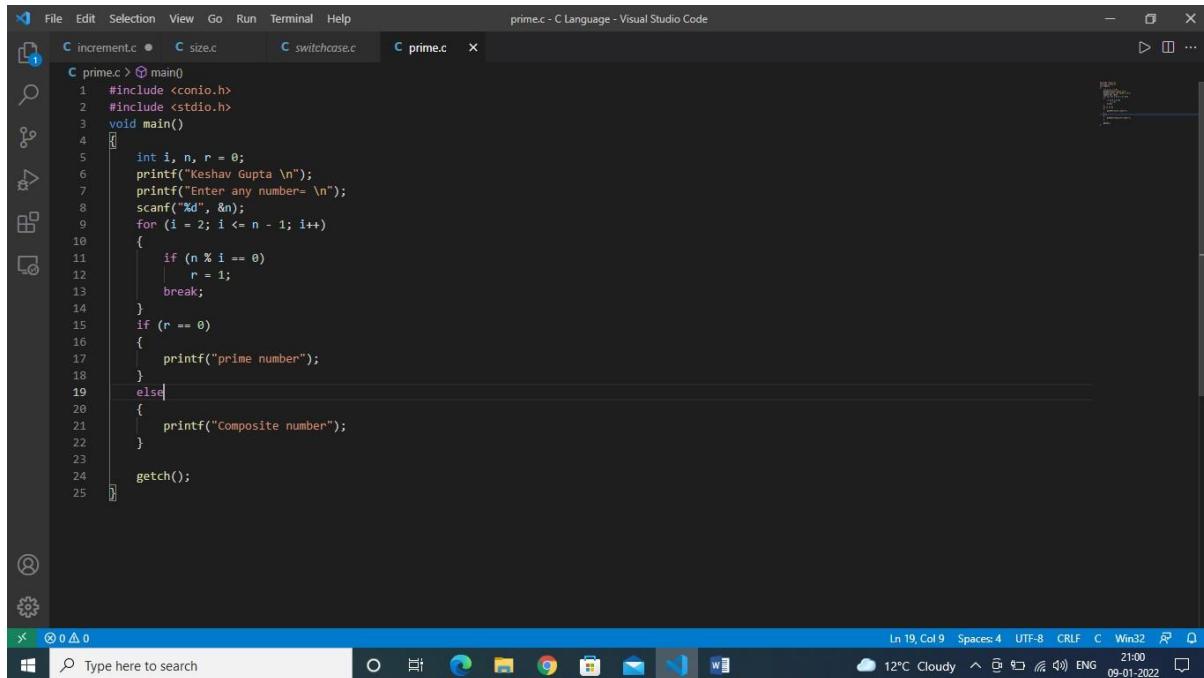
The status bar at the bottom shows: Ln 21, Col 6 Spaces:4 UTF-8 CRLF C Win32 18:18 07-01-2022

The screenshot shows a Windows terminal window titled 'C:\C Language\'. The command 'number.exe' was run, and the output is as follows:

```
C:\C Language\> number.exe
Keshav Gupta
Enter Three Number
76
76
86
This number is greater -87
```

The status bar at the bottom shows: 18°C Mostly cloudy 18:19 ENG 07-01-2022

## Q61. Write a program to check that number is prime or not.

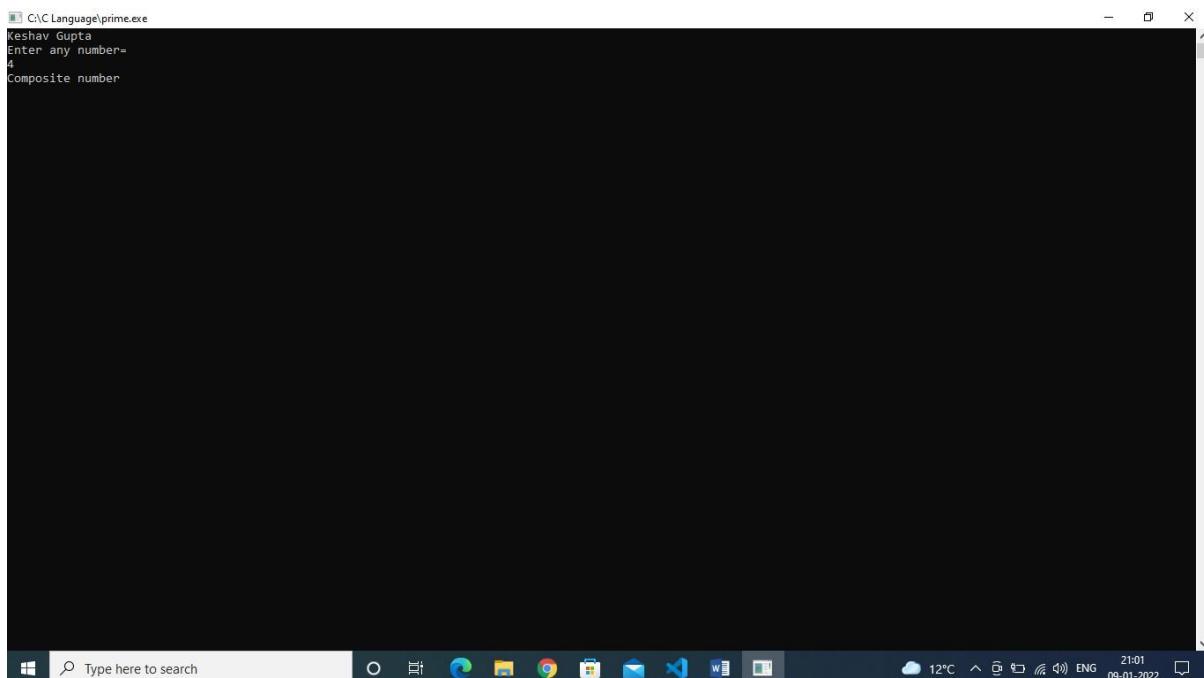


The screenshot shows the Visual Studio Code interface with the following details:

- File Bar:** File, Edit, Selection, View, Go, Run, Terminal, Help
- Editor:** prime.c - C Language - Visual Studio Code. The code is as follows:

```
#include <conio.h>
#include <stdio.h>
void main()
{
    int i, n, r = 0;
    printf("Keshav Gupta \n");
    printf("Enter any number= \n");
    scanf("%d", &n);
    for (i = 2; i <= n - 1; i++)
    {
        if (n % i == 0)
            r = 1;
        break;
    }
    if (r == 0)
    {
        printf("prime number");
    }
    else
    {
        printf("Composite number");
    }
    getch();
}
```

- Terminal:** Shows the command prompt and the output of the program.
- Status Bar:** Ln 19, Col 9, Spaces: 4, UTF-8, CRLF, C, Win32, 21:00, 12°C Cloudy, ENG, 09-01-2022.



The screenshot shows a Windows Command Prompt window with the following details:

- Title Bar:** C:\C Language\prime.exe
- Output:** Keshav Gupta  
Enter any number= 4  
Composite number
- System Bar:** Shows the taskbar with various icons and the system tray.
- Status Bar:** 12°C Cloudy, 21:01, ENG, 09-01-2022.

**Q62 WRITE A PROGRAM TO DISPLAY THE FOLLOWING PATTERN N ROWS AND ROWS TAKING THE VALUE OF N FROM THE USER.**

The screenshot shows the Visual Studio Code interface. The left sidebar displays a tree view of open files under 'OPEN EDITORS' and 'C CODES'. The main editor window contains the following C code:

```
1 #include <stdio.h>
2 #include <conio.h>
3 void main()
4 {
5     int line, row, col, value = 0;
6     printf("Keshav Gupta \n");
7     printf(" Enter the number of lines");
8     scanf("%d", &line);
9     for (row = 1; row <= line; row++)
10    {
11        for (col = 1; col <= row; col++)
12        {
13            printf("%d", value);
14            value++;
15        }
16        printf("\n");
17    }
18
19    getch();
20 }
```

The status bar at the bottom indicates the file is '58.c - c codes - Visual Studio Code' with 'In 16, Col 22' and other system details like date and time.

The screenshot shows a terminal window titled 'C:\Users\HP\c codes\58.exe'. The window displays the following text:

```
Keshav Gupta
Enter the number of lines5
0
12
345
6789
1011121314
```

The status bar at the bottom indicates the file is '58.c - c codes - Visual Studio Code' with 'In 16, Col 22' and other system details like date and time.

**Q63. Write a Program to input marks of 10 students using an array and display the average marks of class.**

The screenshot shows a Visual Studio Code interface with a dark theme. The main editor window displays a C program named '5.C'. The code prompts the user for 10 student marks, stores them in an array, calculates the average, and prints it. The terminal tab at the bottom shows the execution of the program in a Windows PowerShell environment, where the user enters 10 marks and the program outputs an average of 43.00.

```
#include<stdio.h>
int main (){
    int n,i;
    float num[100], sum =0.0,avg;
    printf("\n Keshav Gupta");
    printf("\n Enter the marks of student: ");
    scanf("%d",&n);
    while (n>100||n<1){
        printf(" Error! number should in range of (1 to 100).\n ");
        printf("\n Enter the number again: ");
        scanf("%d",&n);
    }
    for (i = 0;i < n; ++i){
        printf(" %d. Enter marks:",i+1);
        scanf("%f",&num[i]);
        sum+= num[i];
    }
    avg= sum / n;
    printf("Average =%.2f",avg);
    return 0;
}
```

The screenshot shows the terminal tab in Visual Studio Code displaying the output of the C program. The user runs the program ('5.C') and enters 10 student marks. The program calculates and prints the average marks as 43.00.

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Web Designing> cd "c:\Web Designing" ; if ($?) { g++ 5.C -o 5 } ; if ($?) { .\5 }

Keshav Gupta
Enter the marks of student: 10
1. Enter marks:20
2. Enter marks:30
3. Enter marks:40
4. Enter marks:50
5. Enter marks:60
6. Enter marks:70
7. Enter marks:40
8. Enter marks:50
9. Enter marks:30
10. Enter marks:40
Average =43.00
PS C:\Web Designing>
```

**Q64. Write a Program to search for a number entered by the user in a given array and display the array in ascending order.**

The screenshot shows the Visual Studio Code interface with a dark theme. The left sidebar shows a file tree with a single file named '6.c'. The main editor area contains the following C code:

```
C 6.c > main0
1 #include <stdio.h>
2 void main()
3 {
4     int i, j, a, n, number[30];
5     printf("Keshav Gupta\n");
6     printf("Enter the value of N \n");
7     scanf("%d", &n);
8     printf("Enter the number\n");
9     for (i = 0; i < n; ++i)
10    scanf("%d", &number[i]);
11    for (i = 0; i < n; ++i)
12    {
13        for (j = i + 1; j < n; ++j)
14        {
15            if (number[i] > number[j])
16            {
17                a = number[i];
18                number[i] = number[j];
19                number[j] = a;
20            }
21        }
22    }
23    printf("The numbers arranged in ascending order are given below \n");
24    for (i = 0; i < n; ++i)
25        printf("%d\n", number[i]);
26    }
27 }
```

The status bar at the bottom shows: Ln 16, Col 39, Spaces: 4, UTF-8, C, Win32, 12:31, 22°C Sunny, ENG, 15-03-2022.

The screenshot shows the Visual Studio Code interface with a dark theme. The left sidebar shows a file tree with a single file named '6.c'. The top navigation bar has tabs: PROBLEMS, OUTPUT, DEBUG CONSOLE, and TERMINAL. The TERMINAL tab is active, showing the following terminal session:

```
6.c - Web Designing - Visual Studio Code
File Edit Selection View Go Run Terminal Help
6.c - Web Designing - Visual Studio Code
C 6.c > main0
1 #include <stdio.h>
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
TERMINAL
PS C:\Web Designing> cd "C:\Web Designing" ; if ($?) { gcc 6.c -o 6 } ; if ($?) { ./6 }
Keshav Gupta
Enter the value of N
5
Enter the number
9
10
5
2
7
The numbers arranged in ascending order are given below
2
5
7
9
10
PS C:\Web Designing>
```

The status bar at the bottom shows: Ln 16, Col 39, Spaces: 4, UTF-8, C, Win32, 12:32, 22°C Sunny, ENG, 15-03-2022.

## Q65. Write a program to check if a string is palindrome or not.

The screenshot shows a Visual Studio Code interface with a dark theme. On the left is a sidebar with icons for file operations like Open, Save, Find, and Refresh. There are two tabs open: 'C 6.c' and 'C 7.c'. The 'C 7.c' tab contains the following C code:

```
1 #include <stdio.h>
2 #include <string.h>
3 int main()
4 {
5     char str[20];
6     int i, len, temp = 0;
7     int flag = 0;
8     printf("Keshav Gupta\n");
9     printf("Enter a string:\n");
10    scanf("%s", str);
11    len = strlen(str);
12    for (i = 0; i < len; i++)
13    {
14        if (str[i] != str[len - i - 1])
15        {
16            temp = 1;
17            break;
18        }
19    }
20    if (temp == 0)
21    {
22        printf("string is a palindrome");
23    }
24    else
25    {
26        printf("string is not a palindrome");
27    }
28    return 0;
29 }
```

The status bar at the bottom shows 'Ln 19, Col 6' and other system information like temperature, battery level, and date/time.

The screenshot shows the same Visual Studio Code interface with the terminal tab active. The terminal window displays a Windows PowerShell session:

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Web Designing> cd "C:\Web Designing"
Keshav Gupta
Enter a string:
asdf
string is not a palindrome
PS C:\Web Designing>
```

The status bar at the bottom shows 'Ln 19, Col 6' and other system information like temperature, battery level, and date/time.

## Q66. Write a Program to add, multiply, and divide two numbers using pointers.

The screenshot shows a Visual Studio Code interface with a dark theme. The left sidebar has icons for file operations like Open, Save, and Close. The main editor area contains the following C code:

```
C 6.c    C 7.c    C 8.c    x
C 8.c > main()
1 #include <stdio.h>
2
3 int main()
4 {
5     int first, second, *p, *q, sum;
6
7     printf("Keshav Gupta \n");
8     printf("Enter two integers to add\n");
9     scanf("%d", &first, &second);
10
11    p = &first;
12    q = &second;
13
14    sum = *p + *q;
15
16    printf("Sum of entered numbers = %d\n", sum);
17
18    return 0;
19 }
```

The status bar at the bottom shows "Ln 8, Col 43" and "18:27".

The screenshot shows the same Visual Studio Code interface with the terminal tab selected. The terminal window displays the following output:

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Web Designing> cd "c:\Web Designing"
Keshav Gupta
Enter two integers to add
5
7
Sum of entered numbers = 12
PS C:\Web Designing>
```

The status bar at the bottom shows "Ln 8, Col 43" and "18:26".

**Q67. Write a program to create a structure for employees containing the following data members: Employee ID, Employee Name, Age, Department and salary. Input data for 10 Employees and display the details of the employee from the employee ID given by the user.**

```

File Edit Selection View Go Run Terminal Help
9.C - Web Designing - Visual Studio Code
9.C > main()
1 #include <stdio.h>
2 #include <stdlib.h>
3
4 typedef struct{
5     char name[30];
6     int id;
7     double salary;
8 } Employee;
9
10 int main()
11 {
12     int n=2;
13     Employee employees[n];
14     printf("Keshav Gupta \n");
15     printf("Enter %d Employee Details \n \n",n);
16     for(int i=0; i<n; i++)
17     {
18         printf("Employee %d : ",i+1);
19         printf("\n");
20         scanf("%s\n",&employees[i].name);
21         printf("Id : ");
22         scanf("%d\n",&employees[i].id);
23         printf("Salary : ");
24         scanf("%lf", &employees[i].salary);
25         ch = getchar();
26         printf("\n");
27     }
28
29     printf("----- All Employees Details ----- \n");
30     for(int i=0; i<n; i++)
31     {
32         printf("Name : ");
33         printf("%s \n",employees[i].name);
34
35         printf("Id : ");
36         printf("%d \n",employees[i].id);
37
38         printf("Salary : ");
39         printf("%lf \n",employees[i].salary);
40
41     }
42
43     return 0;
44 }

```

Ln 38, Col 8 Spaces: 4 UTF-8 CRLF C++ Go Live Win32 2005 30°C 🌡️ 15-03-2022

```

File Edit Selection View Go Run Terminal Help
9.C - Web Designing - Visual Studio Code
9.C > main()
5 char name[30];
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Web Designing> cd "C:\Web Designing" ; if ($?) { g++ 9.C -o 9 } ; if ($?) { .\9 }

Keshav Gupta
Enter 2 Employee Details

Employee 1:-
Name: keshav
Id: 1
Salary: 40000

Employee 2:-
Name: sourabh
Id: 2
Salary: 45000

----- All Employees Details -----
Name : keshav
Id : 1
Salary : 40000.00

Name : sourabh
Id : 2
Salary : 45000.00

PS C:\Web Designing> []

```

Ln 23, Col 1 Spaces: 4 UTF-8 CRLF C++ Go Live Win32 2002 30°C 🌡️ 15-03-2022

## Q68. Write a program to create two files with names Evenfile and OddFile. Input 10 numbers from the user and save even numbers in Evenfile and odd numbers in Oddfile.

```
C:\ 12.c  C:\ 10.c  X
C:\ 10.c > main()
1 #include <stdio.h>
2 int main()
3 {
4     FILE *f1, *f2, *f3;
5     int number, i;
6     printf("Contents of DATA file\n\n");
7     f1 = fopen("DATA", "w"); /* Create DATA file */
8     for(i = 1; i <= 10; i++)
9     {
10         scanf("%d", &number);
11         if(number == -1) break;
12         putw(number,f1);
13     }
14     fclose(f1);
15     f2 = fopen("ODD", "w");
16     f3 = fopen("EVEN", "w");
17     /* Read from DATA file */
18     while((number = getw(f1)) != EOF)
19     {
20         if(number % 2 == 0)
21             putw(number, f3); /* Write to EVEN file */
22         else
23             putw(number, f2); /* Write to ODD file */
24     }
25     fclose(f1);
26     fclose(f2);
27     fclose(f3);
28     f2 = fopen("ODD", "r");
29     f3 = fopen("EVEN", "r");
30     printf("Contents of ODD file\n\n");
31     while(number = getw(f2)) != EOF
32         printf("%d", number);
33     printf("\n");
34     printf("Contents of EVEN file\n\n");
35     while(number = getw(f3)) != EOF
36         printf("%d", number);
37     fclose(f2);
38     fclose(f3);
39     return 0;
40 }
41
```

```
1
2
3
4
5
6
7
8
9
10

Contents of ODD file

1      3      5      7      9

Contents of EVEN file

2      4      6      8      10
```

## Q69. Write a menu driven program to construct a calculator for following arithmetic operations: addition, subtraction, multiplication, division, average

The screenshot shows the Visual Studio Code interface with the file 11.C open. The code implements a menu-driven calculator with the following operations:

- Addition
- Subtraction
- Multiplication
- Division
- Exit

```
#include <stdio.h>
main()
{
    int num1, num2, opt;
    printf("Keshav Gupta\n");
    printf("Enter the first Integer :");
    scanf("%d", &num1);
    printf("Enter the second Integer :");
    scanf("%d", &num2);

    printf("\nEnter your option :\n");
    printf("1-Addition.\n2-Subtraction.\n3-Multiplication.\n4-Division.\n5-Exit.\n");
    scanf("%d", &opt);
    switch(opt)
    {
        case 1:
            printf("The Addition of %d and %d is: %d\n", num1, num2, num1+num2);
            break;

        case 2:
            printf("The Subtraction of %d and %d is: %d\n", num1, num2, num1-num2);
            break;

        case 3:
            printf("The Multiplication of %d and %d is: %d\n", num1, num2, num1*num2);
            break;

        case 4:
            if(num2==0) {
                printf("The second integer is zero. Divide by zero.\n");
            } else {
                printf("The Division of %d and %d is : %d\n", num1, num2, num1/num2);
            }
            break;

        case 5:
            break;

        default:
            printf("Input correct option\n");
            break;
    }
}
```

The screenshot shows the Visual Studio Code interface with the terminal tab active. The terminal window displays the execution of the 11.C program and its output:

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

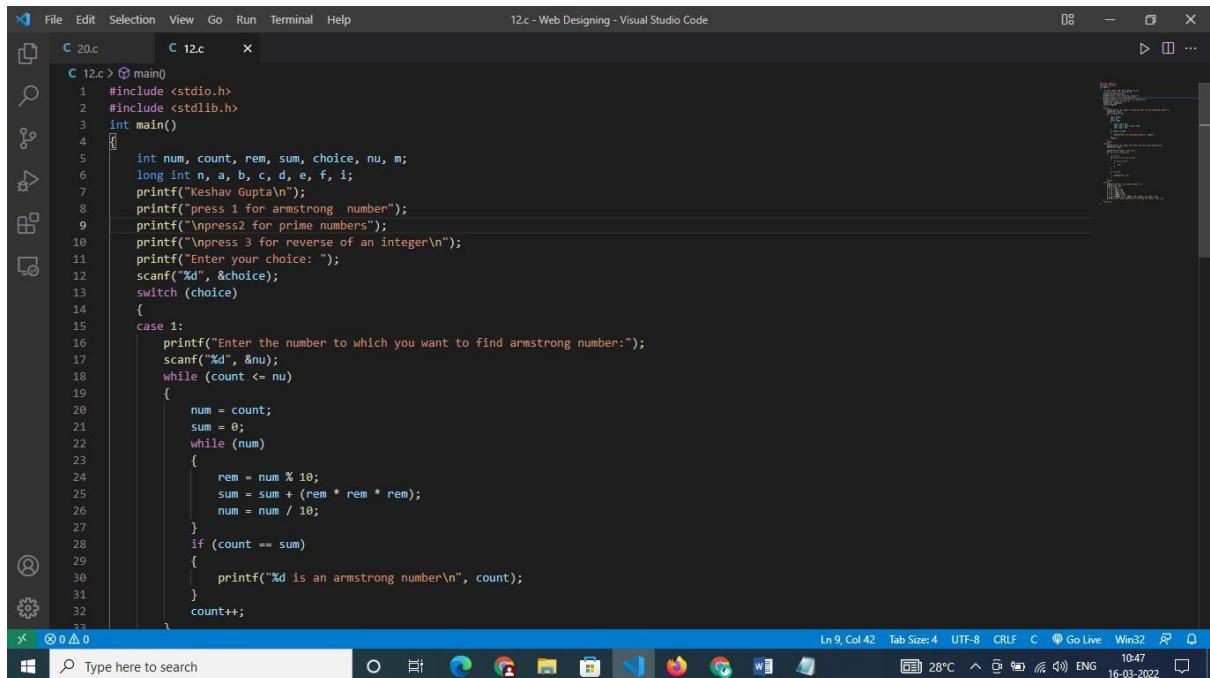
PS C:\Web Designing> cd "c:\Web Designing"; if ($?) { g++ 11.C -o 11 }; if ($?) { .\11 }

Enter the first Integer :55
Enter the second Integer :2

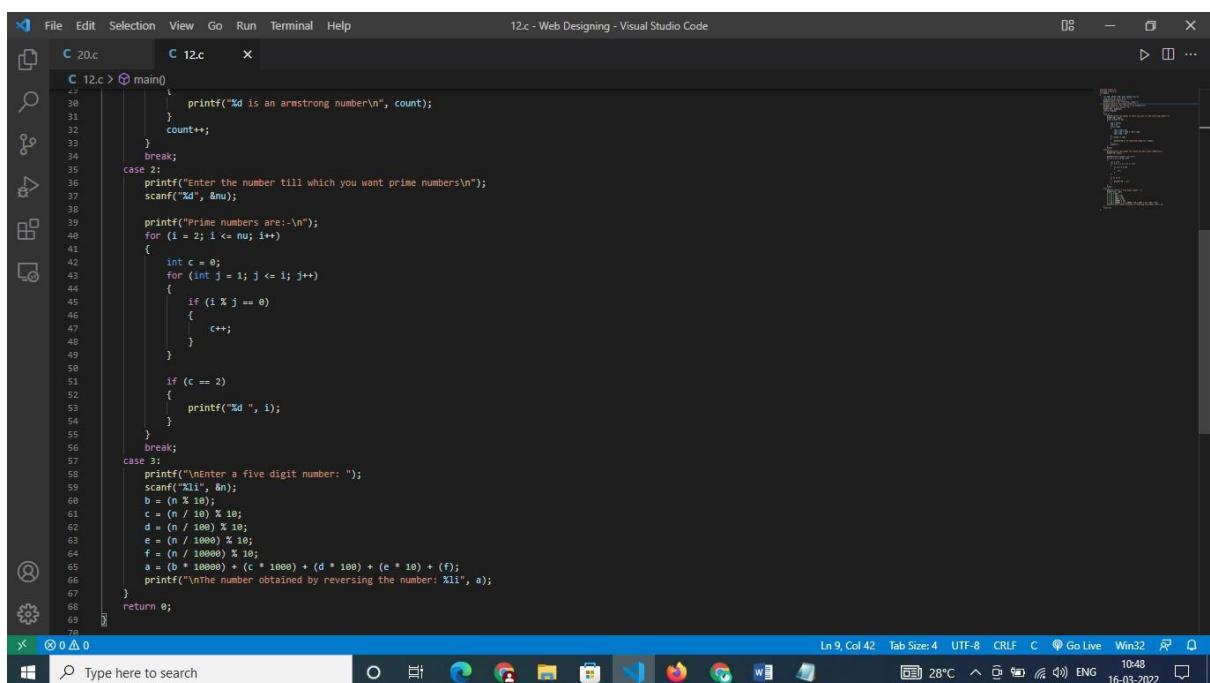
Input your option :
1-Addition.
2-Subtraction.
3-Multiplication.
4-Division.
5-Exit.
2
The Subtraction of 55 and 2 is: 53
PS C:\Web Designing>
```

**Q70. Write a menu driven program to perform following function:**

- (i) Print Armstrong numbers upto N**
- (ii) Display prime numbers between 1 to N**
- (iii) Reverse of an integer**



```
#include <stdio.h>
#include <stdlib.h>
int main()
{
    int num, count, rem, sum, choice, nu, m;
    long int n, a, b, c, d, e, f, i;
    printf("Keshav Gupta\n");
    printf("press 1 for armstrong number\n");
    printf("\npress2 for prime numbers\n");
    printf("\npress3 for reverse of an integer\n");
    printf("Enter your choice: ");
    scanf("%d", &choice);
    switch (choice)
    {
        case 1:
            printf("Enter the number to which you want to find armstrong number:");
            scanf("%d", &nu);
            while (count <= nu)
            {
                num = count;
                sum = 0;
                while (num)
                {
                    rem = num % 10;
                    sum = sum + (rem * rem * rem);
                    num = num / 10;
                }
                if (count == sum)
                {
                    printf("%d is an armstrong number\n", count);
                }
                count++;
            }
        case 2:
            printf("Prime numbers are:-\n");
            for (i = 2; i <= nu; i++)
            {
                int c = 0;
                for (int j = 1; j <= i; j++)
                {
                    if (i % j == 0)
                    {
                        c++;
                    }
                }
                if (c == 2)
                {
                    printf("%d ", i);
                }
            }
            break;
    }
}
```



```
#include <stdio.h>
#include <stdlib.h>
int main()
{
    int num, count, rem, sum, choice, nu, m;
    long int n, a, b, c, d, e, f, i;
    printf("Keshav Gupta\n");
    printf("press 1 for armstrong number\n");
    printf("\npress2 for prime numbers\n");
    printf("\npress3 for reverse of an integer\n");
    printf("Enter your choice: ");
    scanf("%d", &choice);
    switch (choice)
    {
        case 1:
            printf("%d is an armstrong number\n", count);
            count++;
        case 2:
            printf("Prime numbers are:-\n");
            for (i = 2; i <= nu; i++)
            {
                int c = 0;
                for (int j = 1; j <= i; j++)
                {
                    if (i % j == 0)
                    {
                        c++;
                    }
                }
                if (c == 2)
                {
                    printf("%d ", i);
                }
            }
            break;
        case 3:
            printf("\nEnter a five digit number: ");
            scanf("%li", &n);
            a = (n % 10);
            b = (n / 10) % 10;
            c = (n / 100) % 10;
            d = (n / 1000) % 10;
            e = (n / 10000) % 10;
            f = (n / 100000) % 10;
            a = (b * 10000) + (c * 1000) + (d * 100) + (e * 10) + (f);
            printf("\nThe number obtained by reversing the number: %li", a);
    }
}
```

The screenshot shows a Visual Studio Code interface with two tabs open: '20.c' and '12.c'. The '12.c' tab contains the following C code:

```
C 12.c > main()
30     printf("%d is an armstrong number\n", count);
31 }
32 count++;
```

The terminal window below shows the execution of the program:

```
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PS C:\Web Designing> cd "c:\Web Designing\" ; if ($?) { gcc 12.c -o 12 } ; if ($?) { ./12 }

Keshav Gupta
press 1 for armstrong number
press2 for prime numbers
press 3 for reverse of an integer
Enter your choice: 1
Enter the number to which you want to find armstrong number:360
PS C:\Web Designing>
```

The status bar at the bottom indicates the file is saved (S), the current position is Ln 9, Col 42, the tab size is 4, the encoding is UTF-8, and the file type is C. It also shows the date and time as 16-03-2022 10:48.

## Q71. Write a program to convert a hexadecimal number into a binary number.

The screenshot shows the Visual Studio Code interface with a C file named '12.c' open. The code defines a function 'main' that takes a hexadecimal input from the user and prints its binary representation. The code uses a switch statement to handle each digit from 0 to 9 and A to F. The output window shows the conversion of the input '5a7' to the binary string '010110100111'. The status bar at the bottom indicates the file has 6 lines, 30 columns, and is saved in UTF-8 format.

```
1 #include<stdio.h>
2
3 int main()
4 {
5     char hexchar[10];
6     long int count=0;
7     printf("Enter decimal\n");
8     printf("Enter hexadecimal number to convert it into Binary : ");
9     scanf("%c",hexchar);
10    if(hexchar=='a'||hexchar=='A')
11    {
12        switch(hexchar(count))
13        {
14            case '0': printf("0000");
15            break;
16            case '1': printf("0001");
17            break;
18            case '2': printf("0010");
19            break;
20            case '3': printf("0011");
21            break;
22            case '4': printf("0100");
23            break;
24            case '5': printf("0101");
25            break;
26            case '6': printf("0110");
27            break;
28            case '7': printf("0111");
29            break;
30            case '8': printf("1000");
31            break;
32            case '9': printf("1001");
33            break;
34            case 'A': printf("1010");
35            break;
36            case 'B': printf("1011");
37            break;
38            case 'C': printf("1100");
39            break;
40            case 'D': printf("1101");
41            break;
42            case 'E': printf("1110");
43            break;
44            case 'F': printf("1111");
45            break;
46        }
47        count++;
48    }
49    default: printf("Unvalid entry, Please try Again %c",hexchar(count));
50 }
51 count+=1
52 return 0;
53
```

The screenshot shows the Visual Studio Code interface with the terminal tab active. It displays the command to run the program ('cd "C:\Web Designing"; if (\$?) { gcc 12.c -o 12 }; if (\$?) { .\12 }') and the user input ('Enter a hexadecimal number To Convet it into Binary : 5a7'). The terminal then outputs the binary result ('Binary Number is : 010110100111'). The status bar at the bottom indicates the file has 6 lines, 30 columns, and is saved in UTF-8 format.

```
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PS C:\Web Designing> cd "C:\Web Designing"; if ($?) { gcc 12.c -o 12 }; if ($?) { .\12 }
Keshav Gupta
Enter a hexadecimal number To Convet it into Binary : 5a7

Binary Number is : 010110100111
PS C:\Web Designing>
```

## Q72. Write a program to calculate factorial of a number and display fibonacci series upto N terms using recursive function.

The screenshot shows the Visual Studio Code interface with a dark theme. A file named '14.c' is open in the editor. The code is as follows:

```
#include<stdio.h>
int main()
{
    int c, num, r=0, t, i;
    printf("Keshav Gupta");
    printf("enter the term");
    scanf("%d", &num);
    for(i=1; i<=num; i++)
    {
        printf("%d", r);
        c=t+r;
        r=t;
        t=c;
    }
    return 0;
}
```

The status bar at the bottom indicates the file is 14.c - Web Designing, the line is 5, column is 26, spaces are 4, encoding is UTF-8, and the terminal shows the current temperature is 27°C. The taskbar below shows various application icons.

The screenshot shows the Visual Studio Code interface with a dark theme. The terminal tab is active, displaying the following output:

```
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PS C:\Web Designing> cd "c:\Web Designing"; if ($?) { gcc 14.c -o 14 }; if ($?) { .\14 }
Keshav Gupta enter the term 011
02916352291635258327048749856145817602330816379125766124339299155968160399360
PS C:\Web Designing>
```

The status bar at the bottom indicates the file is 14.c - Web Designing, the line is 5, column is 26, spaces are 4, encoding is UTF-8, and the terminal shows the current temperature is 27°C. The taskbar below shows various application icons.

## Ques 73. Write a program to perform matrix addition, multiplication, and matrix transpose on 2D arrays.

```
C 15.c
C 15.c > main()
1 #include <stdio.h>
2 int main() {
3     int r, c, a[100][100], b[100][100], sum[100][100], i, j;
4     printf("Keshav GUPTA\n");
5     printf("Enter the number of rows (between 1 and 100): ");
6     scanf("%d", &r);
7     printf("Enter the number of columns (between 1 and 100): ");
8     scanf("%d", &c);
9
10    printf("Enter elements of 1st matrix:\n");
11    for (i = 0; i < r; ++i)
12        for (j = 0; j < c; ++j) {
13            printf("Enter element a%d%d: ", i + 1, j + 1);
14            scanf("%d", &a[i][j]);
15        }
16
17    printf("Enter elements of 2nd matrix:\n");
18    for (i = 0; i < r; ++i)
19        for (j = 0; j < c; ++j) {
20            printf("Enter element b%d%d: ", i + 1, j + 1);
21            scanf("%d", &b[i][j]);
22        }
23
24    // adding two matrices
25    for (i = 0; i < r; ++i)
26        for (j = 0; j < c; ++j) {
27            sum[i][j] = a[i][j] + b[i][j];
28        }
29
30    // printing the result
31    printf("Sum of two matrices: \n");
32    for (i = 0; i < r; ++i)
33        for (j = 0; j < c; ++j) {
34            printf("%d ", sum[i][j]);
35            if (j == c - 1) {
36                printf("\n\n");
37            }
38        }
39
40    return 0;
41 }
```

```
File Edit Selection View Go Run Terminal Help 15.c - Web Designing - Visual Studio Code
C 15.c x
C 15.c > main()
1 #include <stdio.h>
2 int main() {
3     int r, c, a[100][100], b[100][100], sum[100][100], i, j;
4
5     PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
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PS C:\Web Designing> cd "C:\Web Designing" ; if ($?) { gcc 15.c -o 15 } ; if ($?) { .\15 }

Enter the number of rows (between 1 and 100): 1
Enter the number of columns (between 1 and 100): 2

Enter elements of 1st matrix:
Enter element a11: 3
Enter element a12: 4
Enter elements of 2nd matrix:
Enter element b11: 5
Enter element b12: 6

Sum of two matrices:
8 10

PS C:\Web Designing>
```

## Q74. Write a program to make use of array with structures in following ways:

(i) Use of array as a structure data member

(ii) Create array of structure variables

```
C 16.c > ...
1 #include<stdio.h>
2 #include<string.h>
3 #define MAX 2
4 #define SUBJECTS 2
5
6 struct student
7 {
8     char name[20];
9     int roll_no;
10    float marks[SUBJECTS];
11 };
12
13 int main()
14 {
15     struct student arr_student[MAX];
16     int i, j;
17     float sum = 0;
18     printf("Keshav Gupta\n");
19
20     for(i = 0; i < MAX; i++)
21     {
22         printf("Enter details of student %d\n", i+1);
23
24         printf("Enter name: ");
25         scanf("%s", arr_student[i].name);
26
27         printf("Enter roll no: ");
28         scanf("%d", &arr_student[i].roll_no);
29
30         for(j = 0; j < SUBJECTS; j++)
31         {
32             printf("Enter marks: ");
33             scanf("%f", &arr_student[i].marks[j]);
34         }
35
36         printf("\n");
37
38         printf("Name(%d) roll no(%d) Average(%f)\n");
39
40         for(i = 0; i < MAX; i++)
41         {
42             sum = 0;
43
44             for(j = 0; j < SUBJECTS; j++)
45             {
46                 sum += arr_student[i].marks[j];
47             }
48             printf("%s(%d) %d\n",
49                 arr_student[i].name, arr_student[i].roll_no, sum/SUBJECTS);
50         }
51
52     }
53
54     // signal to operating system program ran fine
55     return 0;
56 }
```

```
File Edit Selection View Go Run Terminal Help • 16.c - Web Designing - Visual Studio Code
C 16.c > ...
1 #include<stdio.h>
2 #include<string.h>
3 #define MAX 2
4 #define SUBJECTS 2
5
6 struct student
7 {
8     char name[20];
9     int roll_no;
10    float marks[SUBJECTS];
11 };
12
13 int main()
14 {
15     struct student arr_student[MAX];
16     int i, j;
17     float sum = 0;
18
19     for(i = 0; i < MAX; i++)
20     {
21         printf("Enter details of student %d\n", i+1);
22
23         printf("Enter name: ");
24         scanf("%s", arr_student[i].name);
25
26         printf("Enter roll no: ");
27         scanf("%d", &arr_student[i].roll_no);
28
29         for(j = 0; j < SUBJECTS; j++)
30         {
31             printf("Enter marks: ");
32             scanf("%f", &arr_student[i].marks[j]);
33         }
34
35         printf("\n");
36
37         printf("Name(%d) roll no(%d) Average(%f)\n");
38
39         for(i = 0; i < MAX; i++)
40         {
41             sum = 0;
42
43             for(j = 0; j < SUBJECTS; j++)
44             {
45                 sum += arr_student[i].marks[j];
46             }
47             printf("%s(%d) %d\n",
48                 arr_student[i].name, arr_student[i].roll_no, sum/SUBJECTS);
49         }
50     }
51
52     // signal to operating system program ran fine
53     return 0;
54 }
```

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```
PS C:\Web Designing> cd "C:\Web Designing" ; if ($?) { gcc 16.c -o 16 } ; if ($?) { .\16 }
Keshav Gupta

Enter details of student 1
Enter name: keshav
Enter roll no: 1
Enter marks: 40
Enter marks: 50

Enter details of student 2
Enter name: sourabh
Enter roll no: 2
Enter marks: 35
Enter marks: 50

Name Roll no Average
keshav 1 45.00
sourabh 2 42.50
PS C:\Web Designing>
```

## Q75. Write a program to compare the contents of two files by taking names of files through command line arguments.

The screenshot shows the Visual Studio Code interface with three tabs open: C 20.c, C 12.c, and C 18.c. The C 18.c tab contains the following C code:

```
C 18.c > main()
1 #include <stdio.h>
2 #include <stdlib.h>
3
4 /* Function declaration */
5 int compareFile(FILE * fPtr1, FILE * fPtr2, int * line, int * col);
6
7
8 int main()
9 {
10    /* File pointer to hold reference of input file */
11    FILE * fPtr1;
12    FILE * fPtr2;
13    char path1[100];
14    char path2[100];
15
16    int diff;
17    int line, col;
18
19    printf("Keshav Gupta\n");
20    printf("Enter path of first file: ");
21    scanf("%s", path1);
22    printf("Enter path of second file: ");
23    scanf("%s", path2);
24
25    fPtr1 = fopen(path1, "r");
26    fPtr2 = fopen(path2, "r");
27
28    if (fPtr1 == NULL || fPtr2 == NULL)
29    {
30        printf("\nUnable to open file.\n");
31        printf("Please check whether file exists and you have read privilege.\n");
32    }
33
34    /* Read file content */
35    /* Compare file content */
36    /* Close file */
37
38    return 0;
39}
```

The status bar at the bottom shows: Ln 19, Col 30, Spaces: 3, UTF-8, CRLF, C, Go Live, Win32, 28°C, ENG, 10:55, 16-03-2022.

The screenshot shows the Visual Studio Code interface with three tabs open: C 20.c, C 12.c, and C 18.c. The C 18.c tab now contains the completed C code for comparing file contents:

```
C 18.c > main()
1 #include <stdio.h>
2 #include <stdlib.h>
3
4 /* Function declaration */
5 int compareFile(FILE * fPtr1, FILE * fPtr2, int * line, int * col);
6
7
8 int main()
9 {
10    /* Please check whether file exists and you have read privilege.\n";
11    exit(EXIT_FAILURE);
12}
13
14
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79
80
81
82
83
84
85
86
```

The status bar at the bottom shows: Ln 19, Col 30, Spaces: 3, UTF-8, CRLF, C, Go Live, Win32, 28°C, ENG, 10:55, 16-03-2022.

File Edit Selection View Go Run Terminal Help

18.c - Web Designing - Visual Studio Code

C 20.c C 12.c C 18.c x

C 18.c > main()

3

4 /\* Function declaration \*/

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Windows PowerShell

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PS C:\Web Designing> cd "c:\Web Designing\" ; if (\$?) { gcc 18.c -o 18 } ; if (\$?) { .\18 }

Keshav Gupta

Enter path of first file: odd.txt

Enter path of second file: even.txt

Unable to open file.

Please check whether file exists and you have read privilege.

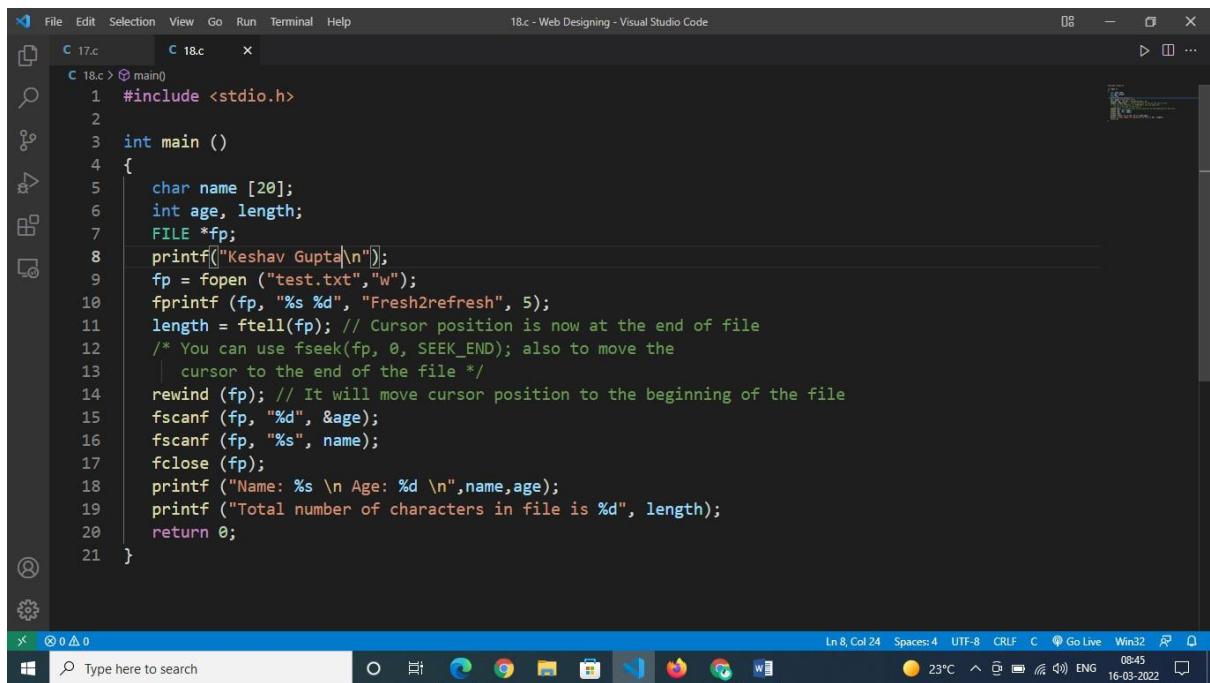
PS C:\Web Designing>

Ln 19, Col 30 Spaces: 3 UTF-8 CRLF C Go Live Win32

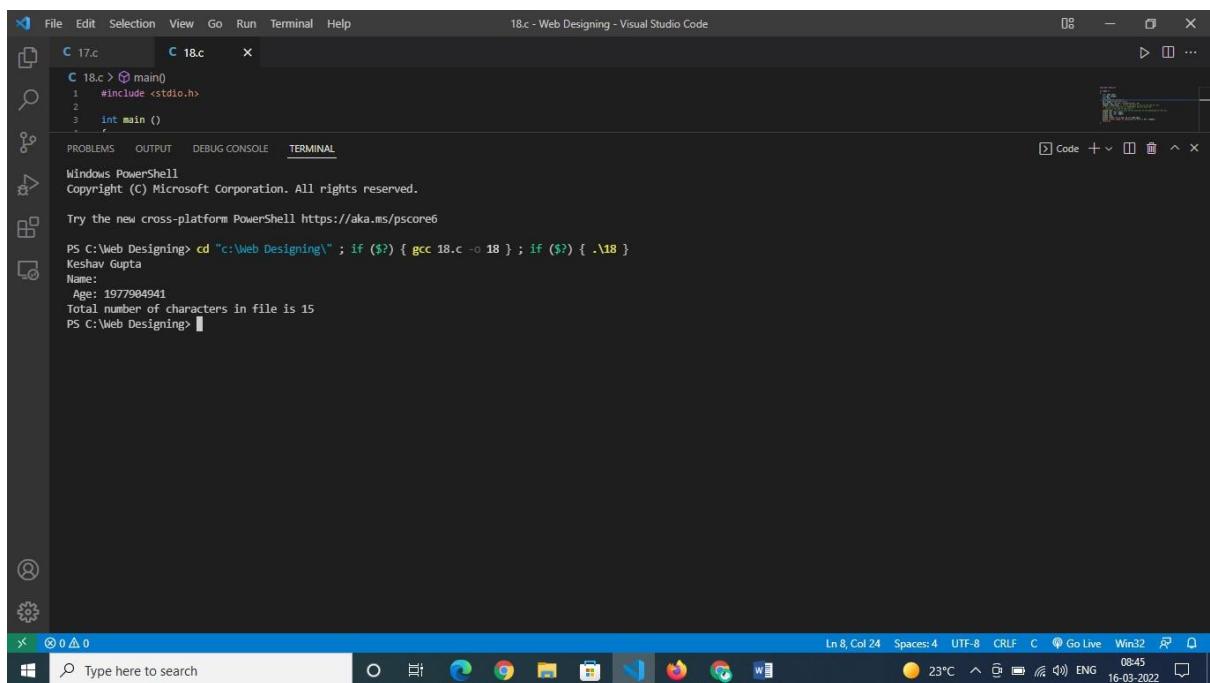
Type here to search

Windows Taskbar icons: File Explorer, Edge, Chrome, File Manager, Notepad, Task View, Firefox, Google Photos, OneDrive, Taskbar settings, Weather (28°C), Date (16-03-2022), Time (10:54)

## Q76. Write a program to perform I/O and make use of file positioning functions on binary files.



```
1 #include <stdio.h>
2
3 int main ()
4 {
5     char name [20];
6     int age, length;
7     FILE *fp;
8
9     printf("Keshav Gupta\n");
10    fp = fopen ("test.txt","w");
11    fprintf (fp, "%s %d", "Fresh2refresh", 5);
12    length = ftell(fp); // Cursor position is now at the end of file
13    /* You can use fseek(fp, 0, SEEK_END); also to move the
14       cursor to the end of the file */
15    rewind (fp); // It will move cursor position to the beginning of the file
16    fscanf (fp, "%d", &age);
17    fscanf (fp, "%s", name);
18    fclose (fp);
19    printf ("Name: %s \n Age: %d \n",name,age);
20    printf ("Total number of characters in file is %d", length);
21 }
```



```
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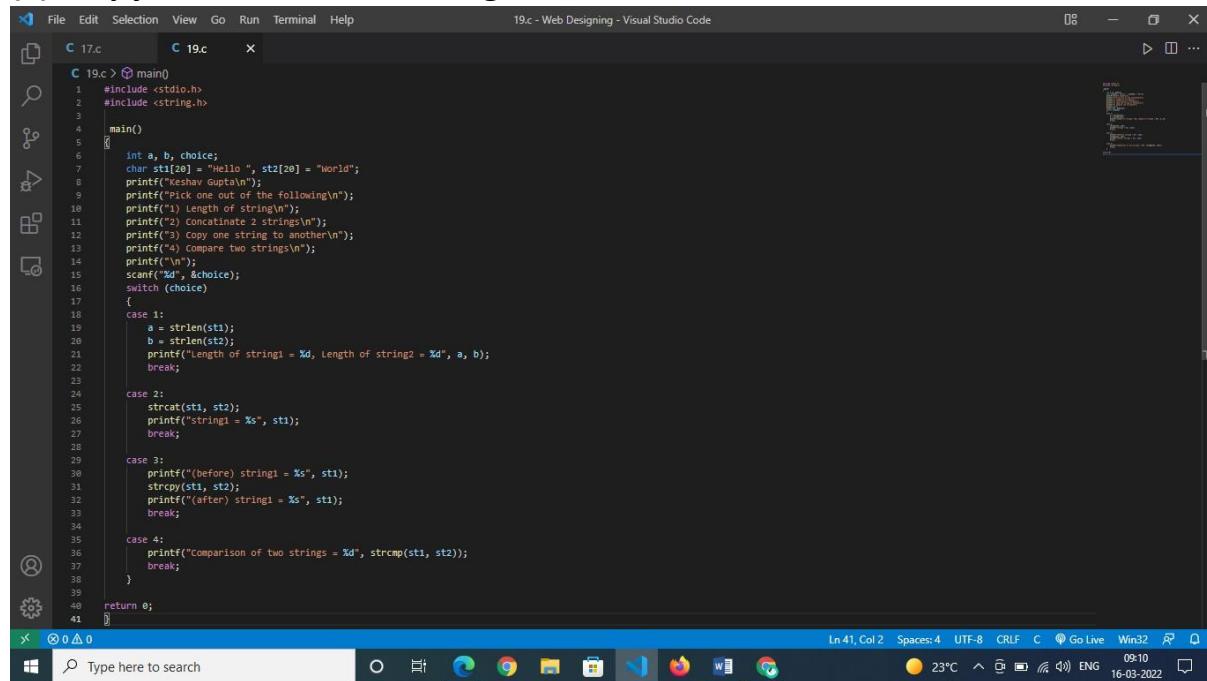
Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Web Designing> cd "c:\Web Designing\" ; if ($?) { gcc 18.c -o 18 } ; if ($?) { .\18 }
Keshav Gupta
Name:
Age: 1977904941
Total number of characters in file is 15
PS C:\Web Designing>
```

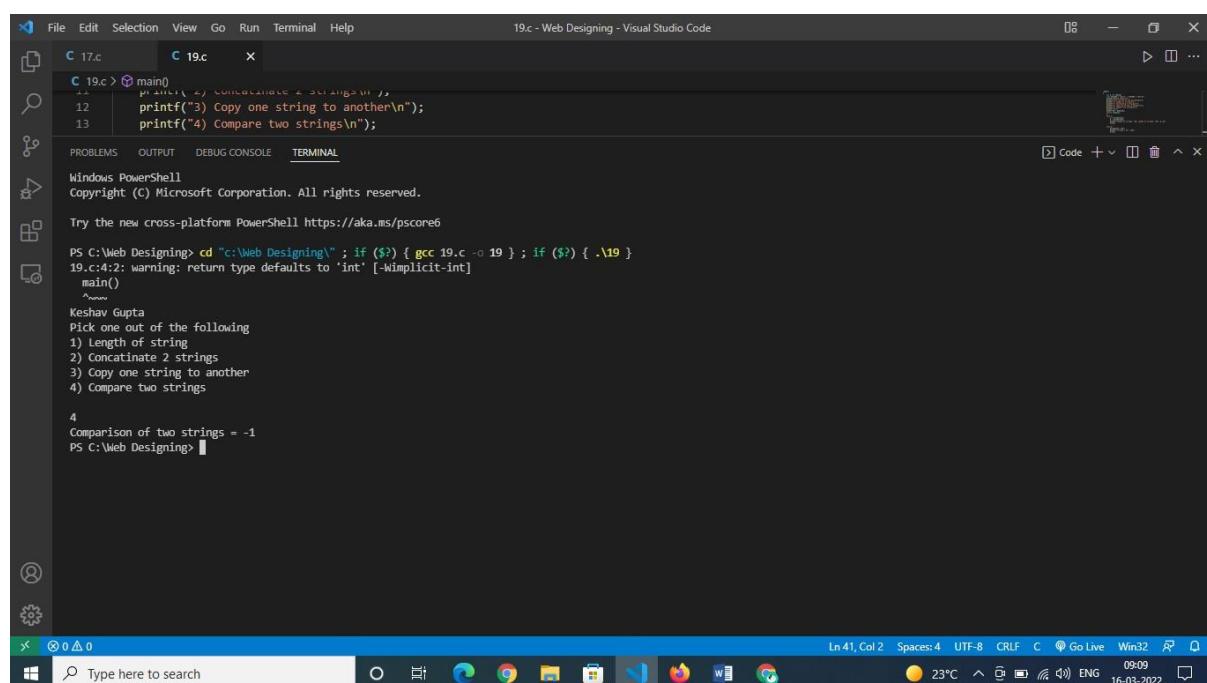
**Q77. Write a menu driven program to implement the following string operations.**

- (i) Calculate length of a string**
- (ii) Concatenate at the end of a given**
- (iii) Copy one string to another**
- (iv) Compare contents of two strings**

**(v) Copy of nth character string to another**



```
File Edit Selection View Go Run Terminal Help
C 17.c C 19.c X
C 19.c > main()
1 #include <stdio.h>
2 #include <string.h>
3
4 main()
5 {
6     int a, b, choice;
7     char st1[20] = "Hello ", st2[20] = "World";
8     printf("Keshav guptan");
9     printf("Pick one out of the following\n");
10    printf("1) Length of string\n");
11    printf("2) Concatinate 2 strings\n");
12    printf("3) Copy one string to another\n");
13    printf("4) Compare two strings\n");
14    printf("\n");
15    scanf("%d", &choice);
16    switch (choice)
17    {
18        case 1:
19            a = strlen(st1);
20            b = strlen(st2);
21            printf("Length of string1 = %d, Length of string2 = %d", a, b);
22            break;
23
24        case 2:
25            strcat(st1, st2);
26            printf("string1 = %s", st1);
27            break;
28
29        case 3:
30            printf("(before) string1 = %s", st1);
31            strcpy(st1, st2);
32            printf("(after) string1 = %s", st1);
33            break;
34
35        case 4:
36            printf("Comparison of two strings = %d", strcmp(st1, st2));
37            break;
38    }
39
40    return 0;
41 }
```



```
File Edit Selection View Go Run Terminal Help
C 17.c C 19.c X
C 19.c > main()
1 #include <stdio.h>
2 #include <string.h>
3
4 main()
5 {
6     printf("1) Concatinate 2 strings\n");
7     printf("2) Copy one string to another\n");
8     printf("3) Compare two strings\n");
9
10    PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL
11
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PS C:\Web Designing> cd "c:\Web Designing" ; if ($?) { gcc 19.c -o 19 } ; if ($?) { .\19 }
19.c:4:2: warning: return type defaults to 'int' [-Wimplicit-int]
  main()
  ^
Keshav Gupta
Pick one out of the following
1) Length of string
2) Concatinate 2 strings
3) Copy one string to another
4) Compare two strings

4
Comparison of two strings = -1
PS C:\Web Designing>
```

## Q78. Write a program to read time in string format and extract hours, minutes and second also check the validity.

The screenshot shows the Visual Studio Code interface with the following details:

- Title Bar:** 20.c - Web Designing - Visual Studio Code
- File Explorer:** Shows a file named "20.c".
- Code Editor:** Displays the C code for validating time input. The code includes a validation function and a main function that reads a string input, extracts hours, minutes, and seconds, and prints them if valid.
- Status Bar:** Shows line 19, column 25, spaces: 4, UTF-8, CRLF, Go Live, Win32, and other system information like temperature and date.
- Taskbar:** Shows various application icons.

The screenshot shows the Visual Studio Code interface with the following details:

- Title Bar:** 20.c - Web Designing - Visual Studio Code
- File Explorer:** Shows a file named "20.c".
- Terminal:** Shows the following session:

```
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Web Designing> cd "c:\Web Designing" ; if ($?) { gcc 20.c -o 20 } ; if ($?) { ./20 }

Keshav Gupta

Enter the time in "hh:mm:ss" format : 10:20:30

The Time is : 10:20:30
PS C:\Web Designing>
```
- Status Bar:** Shows line 19, column 25, spaces: 4, UTF-8, CRLF, Go Live, Win32, and other system information like temperature and date.
- Taskbar:** Shows various application icons.



