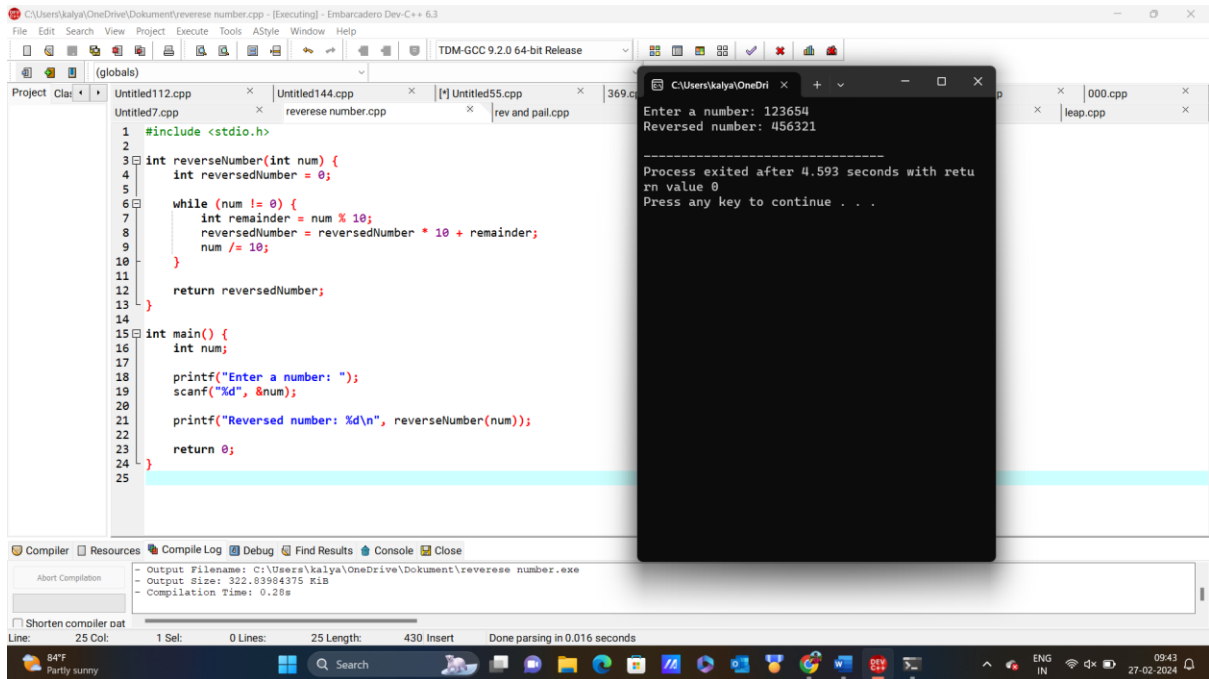


C programming.

Class Test Day - 4

1.reverse a number.



The screenshot shows the Embarcadero Dev-C++ IDE with a C program to reverse a number. The code is as follows:

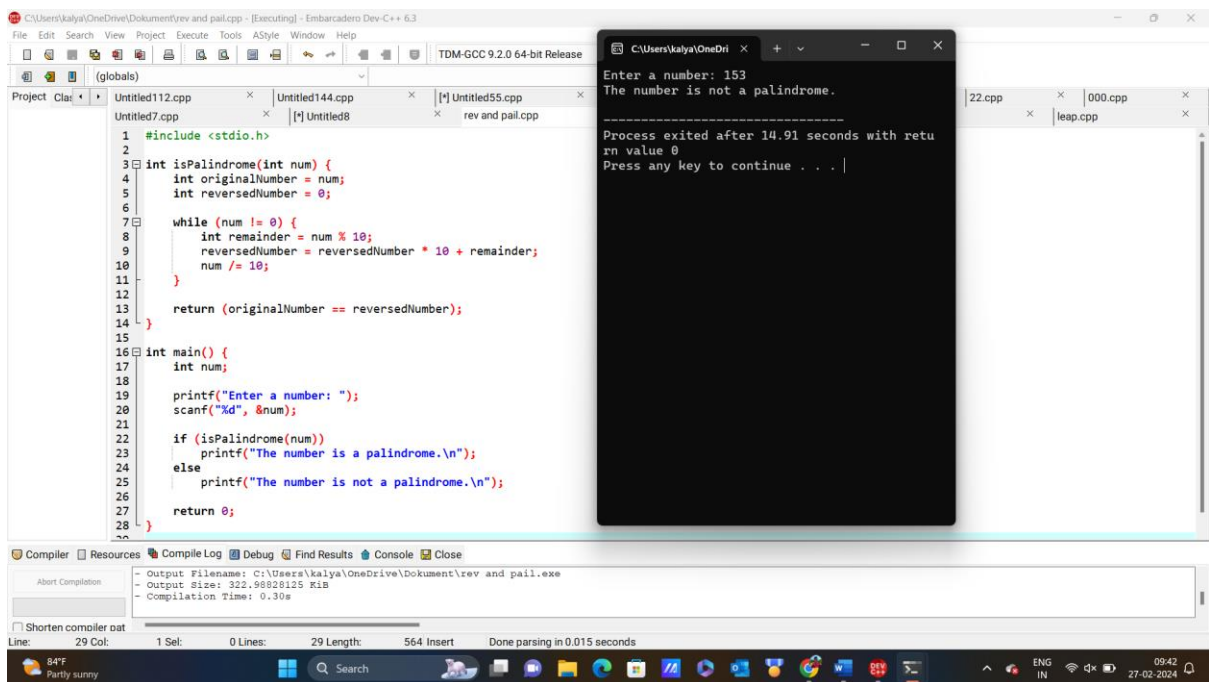
```
1 #include <stdio.h>
2
3 int reverseNumber(int num) {
4     int reversedNumber = 0;
5
6     while (num != 0) {
7         int remainder = num % 10;
8         reversedNumber = reversedNumber * 10 + remainder;
9         num /= 10;
10    }
11
12    return reversedNumber;
13 }
14
15 int main() {
16     int num;
17
18     printf("Enter a number: ");
19     scanf("%d", &num);
20
21     printf("Reversed number: %d\n", reverseNumber(num));
22
23     return 0;
24 }
```

The console output shows the program running with input 123654 and output 456321.

```
Enter a number: 123654
Reversed number: 456321

-----
Process exited after 4.593 seconds with return value 0
Press any key to continue . . .
```

2.reverse a number and check palindrome.



The screenshot shows the Embarcadero Dev-C++ IDE with a C program to reverse a number and check if it's a palindrome. The code is as follows:

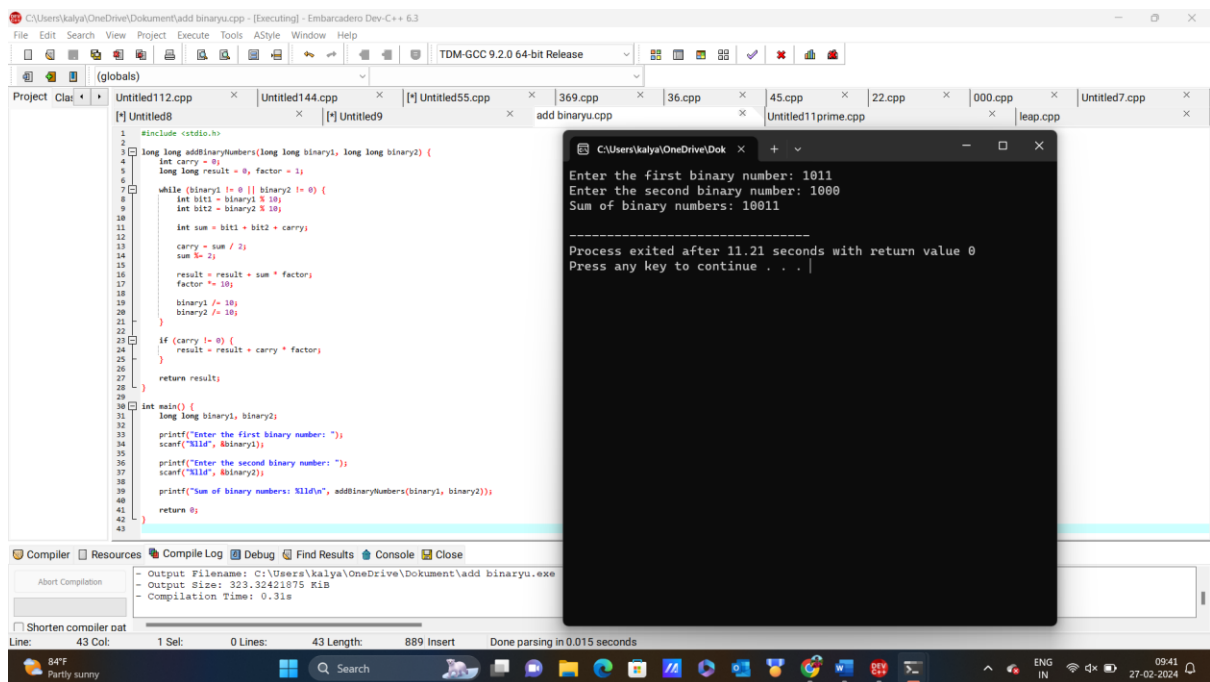
```
1 #include <stdio.h>
2
3 int isPalindrome(int num) {
4     int originalNumber = num;
5     int reversedNumber = 0;
6
7     while (num != 0) {
8         int remainder = num % 10;
9         reversedNumber = reversedNumber * 10 + remainder;
10        num /= 10;
11    }
12
13    return (originalNumber == reversedNumber);
14 }
15
16 int main() {
17     int num;
18
19     printf("Enter a number: ");
20     scanf("%d", &num);
21
22     if (isPalindrome(num))
23         printf("The number is a palindrome.\n");
24     else
25         printf("The number is not a palindrome.\n");
26
27     return 0;
28 }
```

The console output shows the program running with input 153 and output "The number is not a palindrome."

```
Enter a number: 153
The number is not a palindrome.

-----
Process exited after 14.91 seconds with return value 0
Press any key to continue . . .
```

3. Add two binary numbers



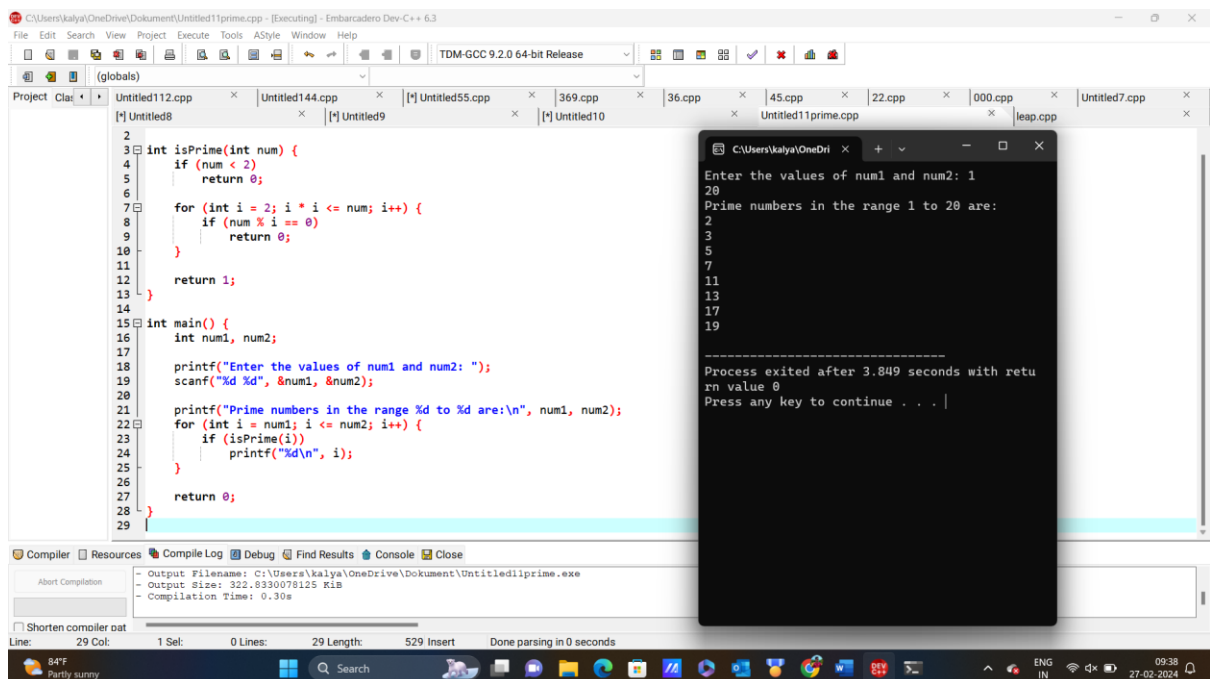
The screenshot shows the Embarcadero Dev-C++ IDE with a C++ project named 'add binaryu.cpp'. The code in the editor implements a function to add two binary numbers represented as strings. The main function prompts the user to enter two binary numbers and displays the sum. A console window is open, showing the program's execution with the input '1011' and '1000', resulting in the output '10011'. The console also shows the process exit message: 'Process exited after 11.21 seconds with return value 0'.

```
#include <stdio.h>
long long addBinaryNumbers(long long binary1, long long binary2) {
    int carry = 0;
    long long result = 0, factor = 1;
    while (binary1 != 0 || binary2 != 0) {
        int bit1 = binary1 % 10;
        int bit2 = binary2 % 10;
        int sum = bit1 + bit2 + carry;
        carry = sum / 2;
        sum %= 2;
        result = result + sum * factor;
        factor *= 10;
        binary1 /= 10;
        binary2 /= 10;
    }
    if (carry != 0) {
        result = result + carry * factor;
    }
    return result;
}

int main() {
    long long binary1, binary2;
    printf("Enter the first binary number: ");
    scanf("%lld", &binary1);
    printf("Enter the second binary number: ");
    scanf("%lld", &binary2);
    printf("Sum of binary numbers: %lld\n", addBinaryNumbers(binary1, binary2));
    return 0;
}
```

Compiler: TDM-GCC 9.2.0 64-bit Release
Output Filename: C:\Users\kalya\OneDrive\Documents\add binaryu.exe
Output Size: 323.32421875 KiB
Compilation Time: 0.31s

4. find prime number in a given range



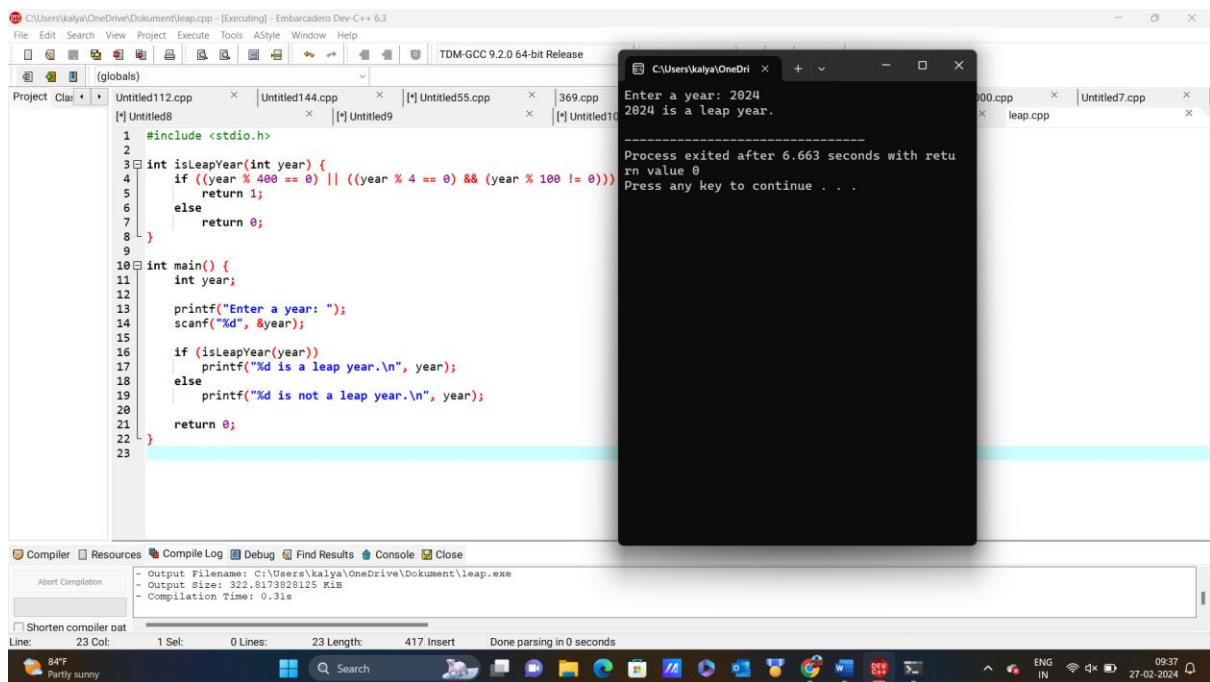
The screenshot shows the Embarcadero Dev-C++ IDE with a C++ project named 'Untitled11prime.cpp'. The code in the editor implements a function to check if a number is prime and a main function to find all prime numbers in a given range. The main function prompts the user to enter two values, num1 and num2, and displays the prime numbers in the range. A console window is open, showing the program's execution with the input '1' and '20', resulting in the output 'Prime numbers in the range 1 to 20 are: 2, 3, 5, 7, 11, 13, 17, 19'. The console also shows the process exit message: 'Process exited after 3.849 seconds with return value 0'.

```
int isPrime(int num) {
    if (num < 2)
        return 0;
    for (int i = 2; i * i <= num; i++) {
        if (num % i == 0)
            return 0;
    }
    return 1;
}

int main() {
    int num1, num2;
    printf("Enter the values of num1 and num2: ");
    scanf("%d %d", &num1, &num2);
    printf("Prime numbers in the range %d to %d are:\n", num1, num2);
    for (int i = num1; i <= num2; i++) {
        if (isPrime(i))
            printf("%d\n", i);
    }
    return 0;
}
```

Compiler: TDM-GCC 9.2.0 64-bit Release
Output Filename: C:\Users\kalya\OneDrive\Documents\Untitled11prime.exe
Output Size: 322.8390078125 KiB
Compilation Time: 0.30s

5. check leap year.



```
1 #include <stdio.h>
2
3 int isLeapYear(int year) {
4     if ((year % 400 == 0) || ((year % 4 == 0) && (year % 100 != 0)))
5         return 1;
6     else
7         return 0;
8 }
9
10 int main() {
11     int year;
12
13     printf("Enter a year: ");
14     scanf("%d", &year);
15
16     if (isLeapYear(year))
17         printf("%d is a leap year.\n", year);
18     else
19         printf("%d is not a leap year.\n", year);
20
21     return 0;
22 }
23
```

Enter a year: 2024
2024 is a leap year.

Process exited after 6.663 seconds with return value 0
Press any key to continue . . .

Compiler | Resources | Compile Log | Debug | Find Results | Console | Close

Abort Compilation

- Output Filename: C:\Users\kalya\OneDrive\Documents\leap.exe
- Output Size: 322,617,382,8125 KiB
- Compilation Time: 0.31s

Shorten compiler output

Line: 23 Col: 1 Sel: 0 Lines: 23 Length: 417 Insert Done parsing in 0 seconds

84°F Partly sunny

Search

ENG IN

09:37 27-02-2024