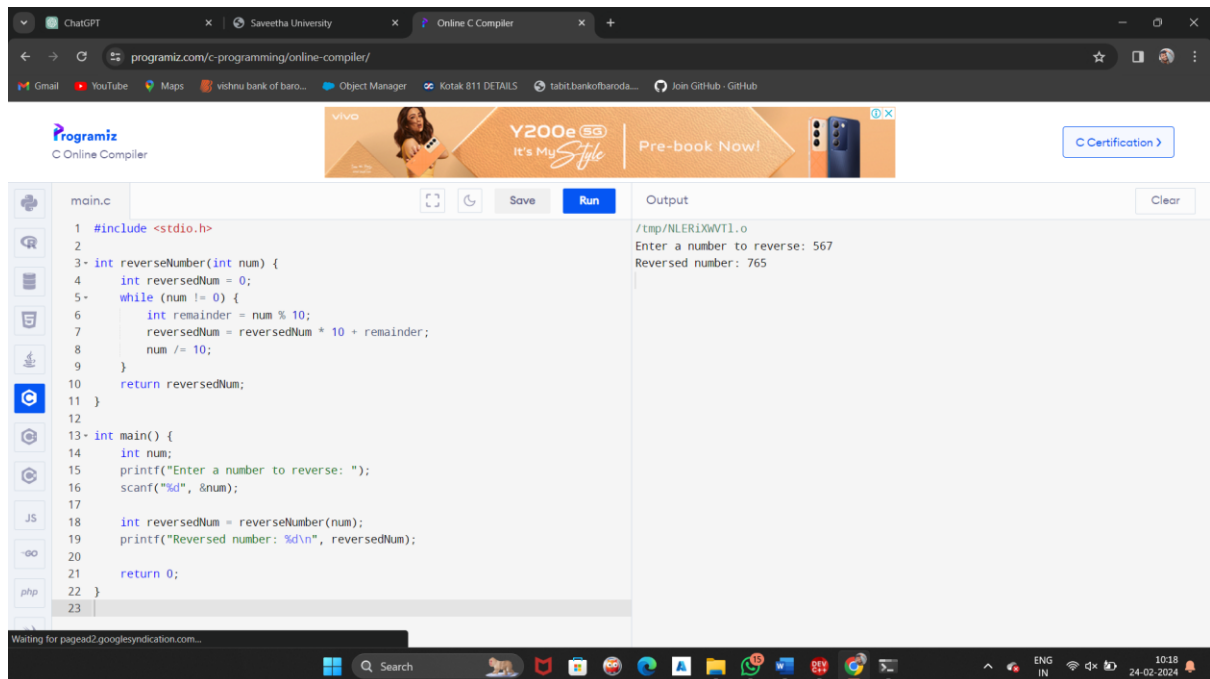


Day 4

Test

## 1. 1. Reverse a Number



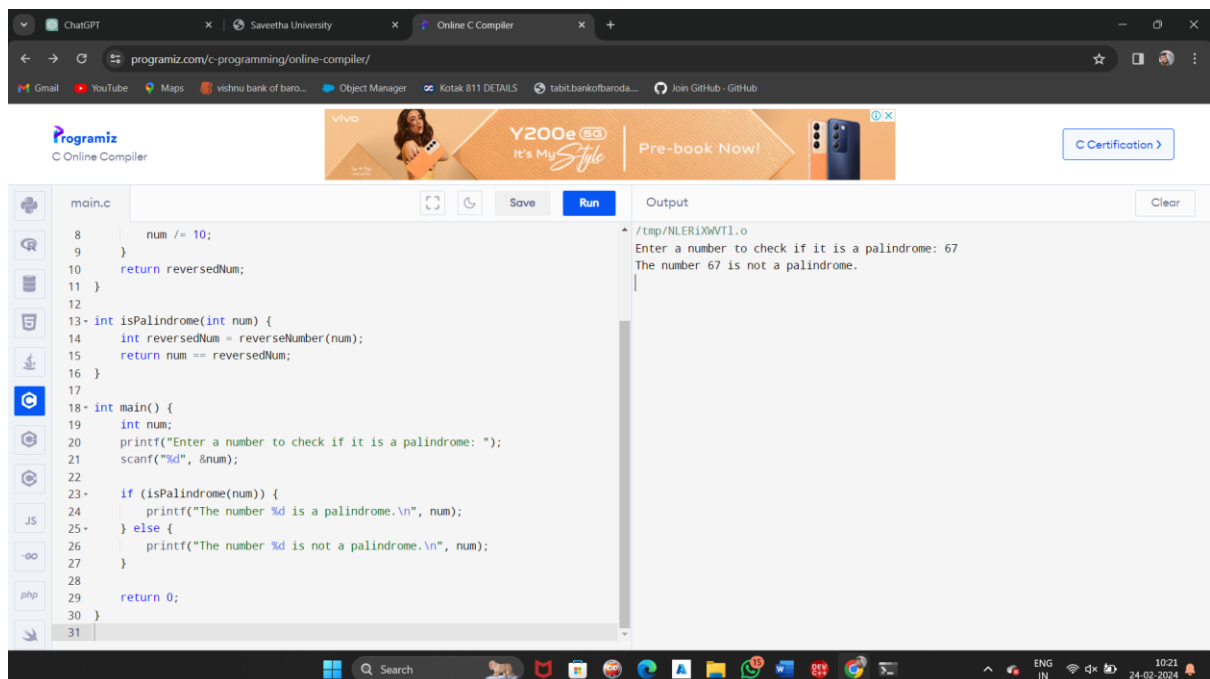
The screenshot shows the Programiz Online C Compiler interface. The code editor contains a C program to reverse a number. The output window shows the result of running the program with the input 567.

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

Output

```
/tmp/NLERIXwVT1.o
Enter a number to reverse: 567
Reversed number: 765
```

## 2. Reverse a Number and Check if it is a Palindrome



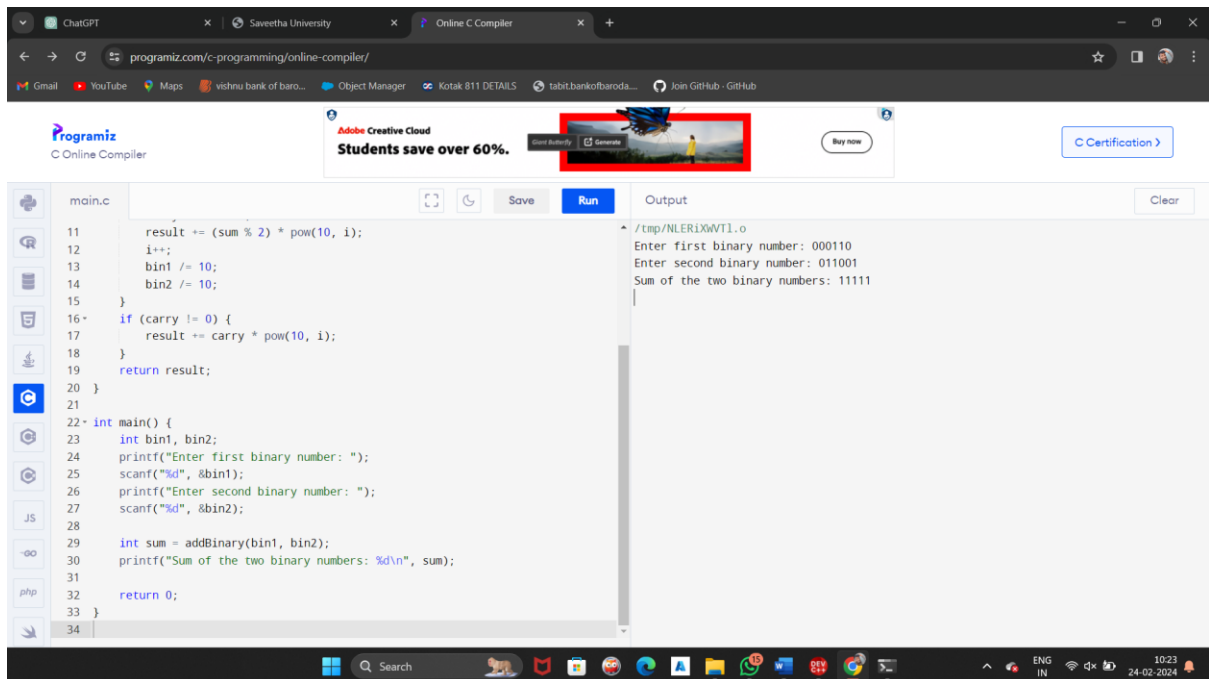
The screenshot shows the Programiz Online C Compiler interface. The code editor contains a C program to reverse a number and check if it is a palindrome. The output window shows the result of running the program with the input 67.

```
main.c
8     num /= 10;
9 }
10 return reversedNum;
11 }
12
13 int isPalindrome(int num) {
14     int reversedNum = reverseNumber(num);
15     return num == reversedNum;
16 }
17
18 int main() {
19     int num;
20     printf("Enter a number to check if it is a palindrome: ");
21     scanf("%d", &num);
22
23     if (isPalindrome(num)) {
24         printf("The number %d is a palindrome.\n", num);
25     } else {
26         printf("The number %d is not a palindrome.\n", num);
27     }
28
29     return 0;
30 }
31
```

Output

```
/tmp/NLERIXwVT1.o
Enter a number to check if it is a palindrome: 67
The number 67 is not a palindrome.
```

### 3. C Program to Add Two Binary Numbers



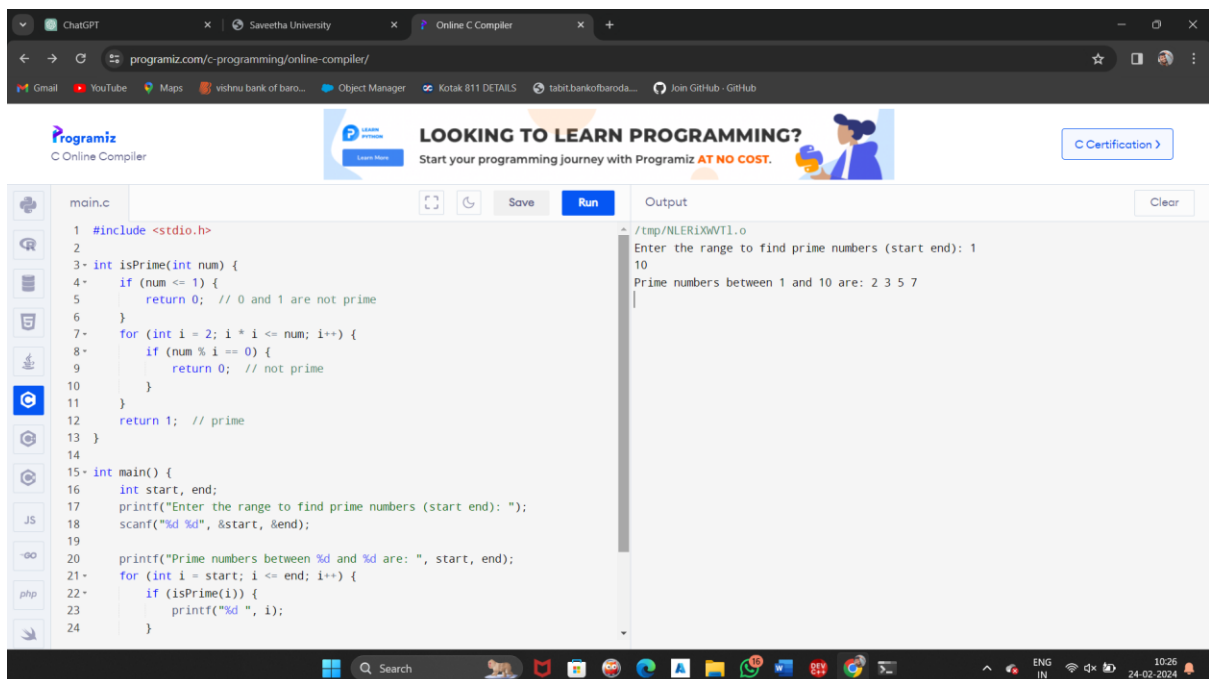
The screenshot shows the Programiz Online C Compiler interface. The code in `main.c` defines a function `addBinary` that takes two binary strings, `bin1` and `bin2`, and returns their sum as a binary string. The `main` function prompts the user to enter two binary numbers and prints the result.

```
main.c
11 result += (sum % 2) * pow(10, i);
12 i++;
13 bin1 /= 10;
14 bin2 /= 10;
15 }
16 if (carry != 0) {
17     result += carry * pow(10, i);
18 }
19 return result;
20 }
21
22 int main() {
23     int bin1, bin2;
24     printf("Enter first binary number: ");
25     scanf("%d", &bin1);
26     printf("Enter second binary number: ");
27     scanf("%d", &bin2);
28
29     int sum = addBinary(bin1, bin2);
30     printf("Sum of the two binary numbers: %d\n", sum);
31
32     return 0;
33 }
34
```

Output:

```
/tmp/NLERIXwT1.o
Enter first binary number: 000110
Enter second binary number: 011001
Sum of the two binary numbers: 11111
```

### 4. Find Prime Numbers in a Given Range



The screenshot shows the Programiz Online C Compiler interface. The code in `main.c` defines a function `isPrime` that checks if a number is prime. The `main` function prompts the user to enter a range and prints the prime numbers in that range.

```
main.c
1 #include <stdio.h>
2
3 int isPrime(int num) {
4     if (num <= 1) {
5         return 0; // 0 and 1 are not prime
6     }
7     for (int i = 2; i * i <= num; i++) {
8         if (num % i == 0) {
9             return 0; // not prime
10        }
11    }
12    return 1; // prime
13 }
14
15 int main() {
16     int start, end;
17     printf("Enter the range to find prime numbers (start end): ");
18     scanf("%d %d", &start, &end);
19
20     printf("Prime numbers between %d and %d are: ", start, end);
21     for (int i = start; i <= end; i++) {
22         if (isPrime(i)) {
23             printf("%d ", i);
24         }
25     }
26 }
```

Output:

```
/tmp/NLERIXwT1.o
Enter the range to find prime numbers (start end): 1
10
Prime numbers between 1 and 10 are: 2 3 5 7
```

## 5. LEAP YEAR

The screenshot shows a web browser window with the URL `programiz.com/c-programming/online-compiler/`. The browser's address bar and tabs are visible at the top. Below the browser window is the Programiz C Online Compiler interface. It features a header with the Programiz logo, a navigation bar with social media links, and a 'C Certification' button. The main area is divided into two panels: a code editor on the left and an output window on the right. The code editor contains a C program for checking leap years. The output window shows the program's execution results for the year 2000. The Windows taskbar is visible at the bottom of the screen.

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

Output

```
/tmp/NLERIXwVT1.o
Enter a year: 2000
2000 is a leap year.
```