23.Write a program to convert Binary number to Decimal number using any high level language.

AIM:

Writing a c program to convert binary to decimal number

ALGORITHM:

1. Take a binary number as the input.
2. Divide the number by 10 and store the remainder into variable rem.
3. decimal_num = decimal_num + rem * base;

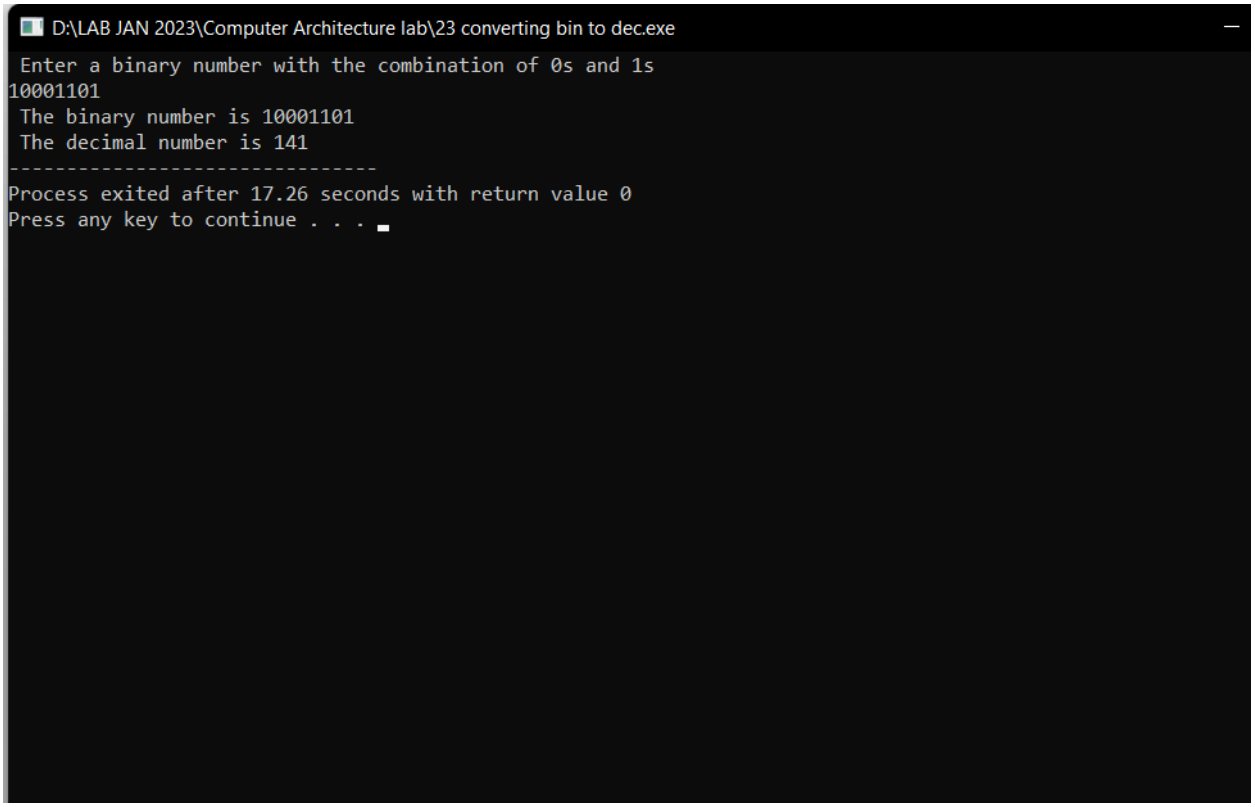
   Initially, the decimal_num is 0, and the base is 1, where the rem variable stores the remainder of the number.
4. Divide the quotient of the original number by 10.
5. Multiply the base by 2.
6. Print the decimal of the binary number.

PROGRAM:

```
#include <stdio.h>
int main()
{
 int num, binary_num, decimal_num = 0, base = 1, rem;
 printf (" Enter a binary number with the combination of 0s and 1s \n");
 scanf (" %d", &num);
 binary_num = num;
 while ( num > 0)
 {
 rem = num % 10;
 decimal_num = decimal_num + rem * base;
 num = num / 10;
 base = base * 2;
 }

 printf ( " The binary number is %d \t", binary_num);
 printf (" \n The decimal number is %d \t", decimal_num);
}
```

OUTPUT:



RESULT:

Thus the program for binary to decimal conversion is successfully executed.