# Lab Sheet – 2

**1. Write a C program to prompt the user to input three integer values and print these values in forward and reversed order.**

**2. Write a program to calculate compound interest.**

**3. Write a program to swap two variables values with and without using third variables**

**4. Write a program to print the size of char, float, double and long double data types in C**

**5. Write a program to check odd or even number (a) using modulus operator (b) using bitwise operator (c) without using bitwise and modulus operator (d) using conditional operator.**

**6. Write a program to calculate year, month and days of given days.**

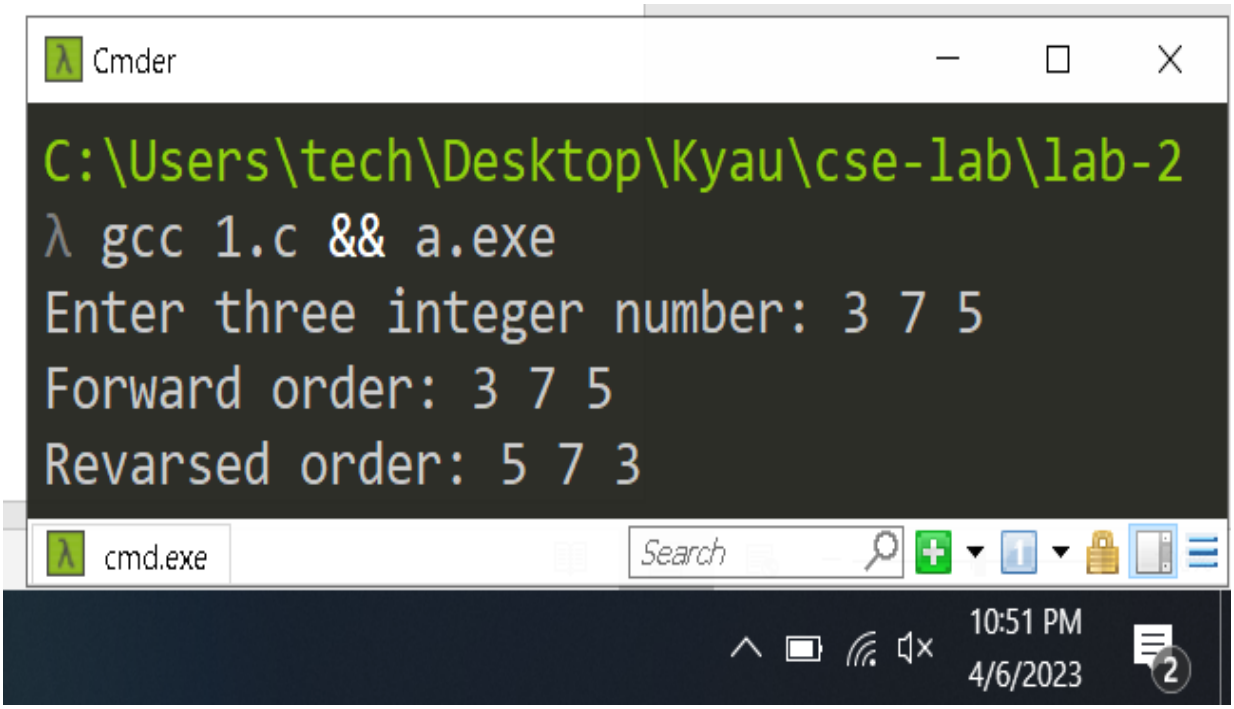
**7. Write a program to take input your date of birth and calculate age.**

***Problem 1*: Write a C program to prompt the user to input three integer values and print these values in forward and reversed order.**

## Code:

```
#include <stdio.h>

int main()

{

   int a, b, c;

   printf("Enter three integer number: ");

   scanf("%d %d %d", &a, &b, &c);

   printf("Forward order: %d %d %d\n", a, b, c);

   printf("Revarsed order: %d %d %d\n", c, b, a);

   return 0;

}
```

## Output:

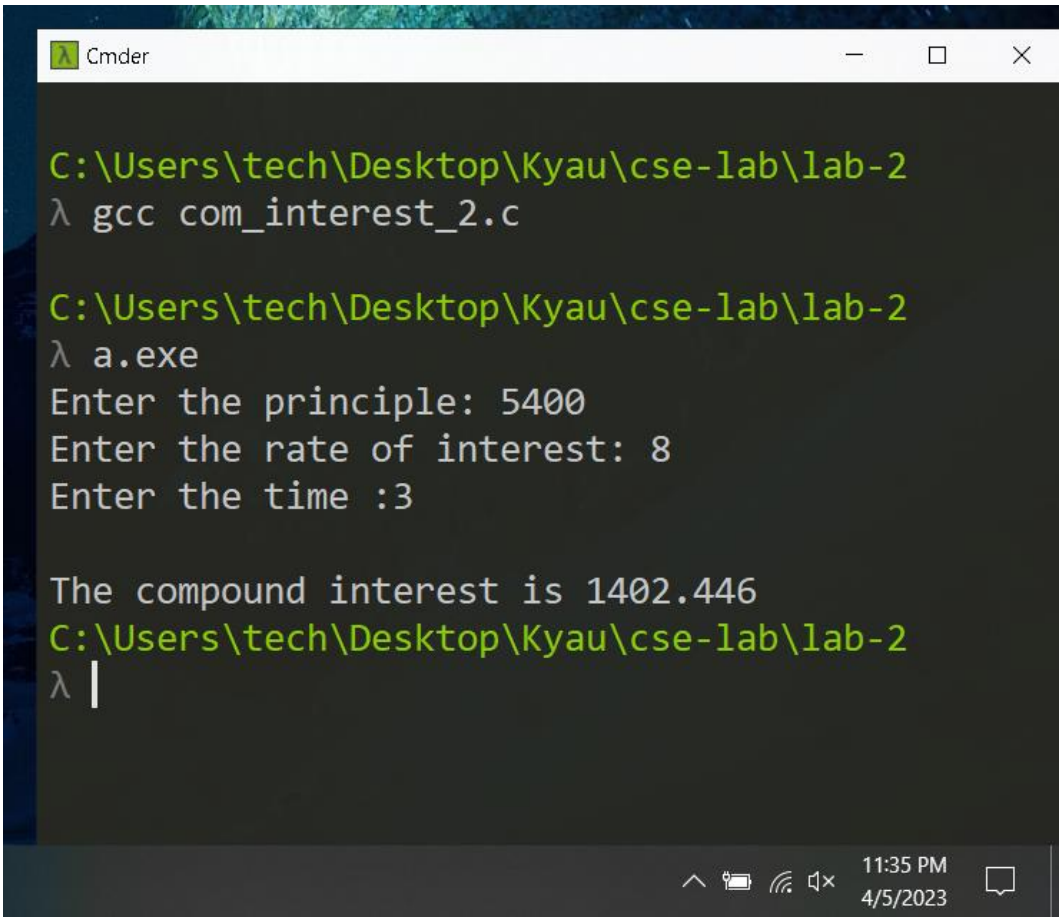


***Problem 2*: Write a program to calculate compound interest.**

**Code:**

```
#include <stdio.h>
#include <math.h>
int main()
{
   float principle, rate, time, compount_interest;
   printf("Enter the principle: ");
   scanf("%f", &principle);
   printf("Enter the rate of interest: ");
   scanf("%f", &rate);
   printf("Enter the time :");
   scanf("%f", &time);
   compount_interest = principle * pow((1 + rate / 100), time) - principle;
   printf("\nThe compound interest is %0.3f", compount_interest);
   return 0;
}
```

**Output:**

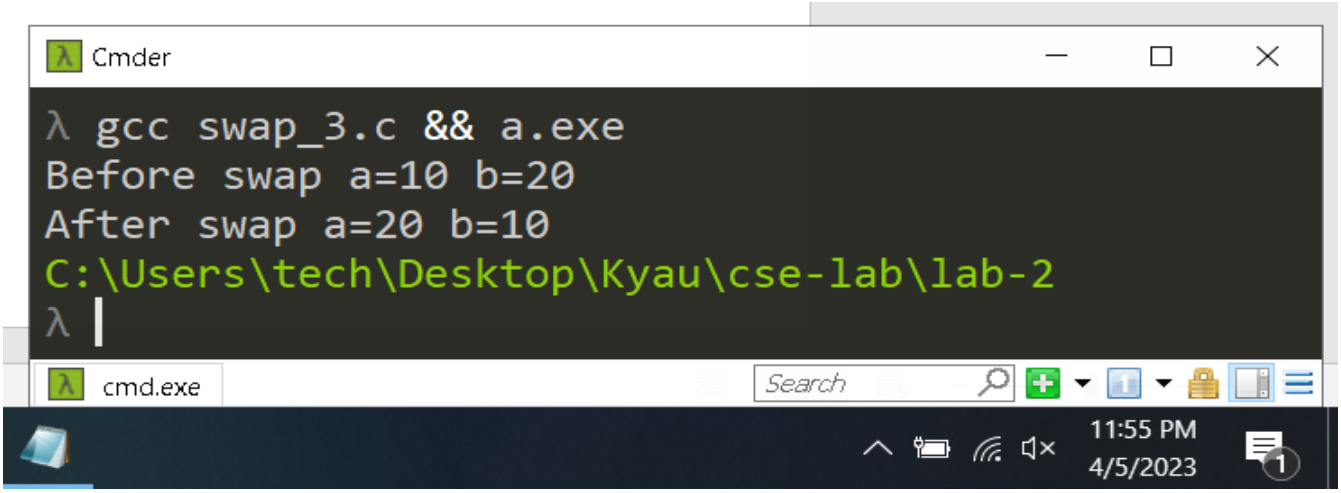

Cmder
C:\Users\tech\Desktop\Kyau\cse-lab\lab-2
λ gcc com_interest_2.c
C:\Users\tech\Desktop\Kyau\cse-lab\lab-2
λ a.exe
Enter the principle: 5400
Enter the rate of interest: 8
Enter the time :3
The compound interest is 1402.446
C:\Users\tech\Desktop\Kyau\cse-lab\lab-2
λ
11:35 PM
4/5/2023

**Problem 3: Write a program to swap two variables values with and without using third variables**

**Code:**

```
#include <stdio.h>

int main()

{

   int a = 10, b = 20;

   printf("Before swap a=%d b=%d", a, b);

   a = a + b;

   b = a - b;

   a = a - b;

   printf("\nAfter swap a=%d b=%d", a, b);

   return 0;

}
```

**Output:**

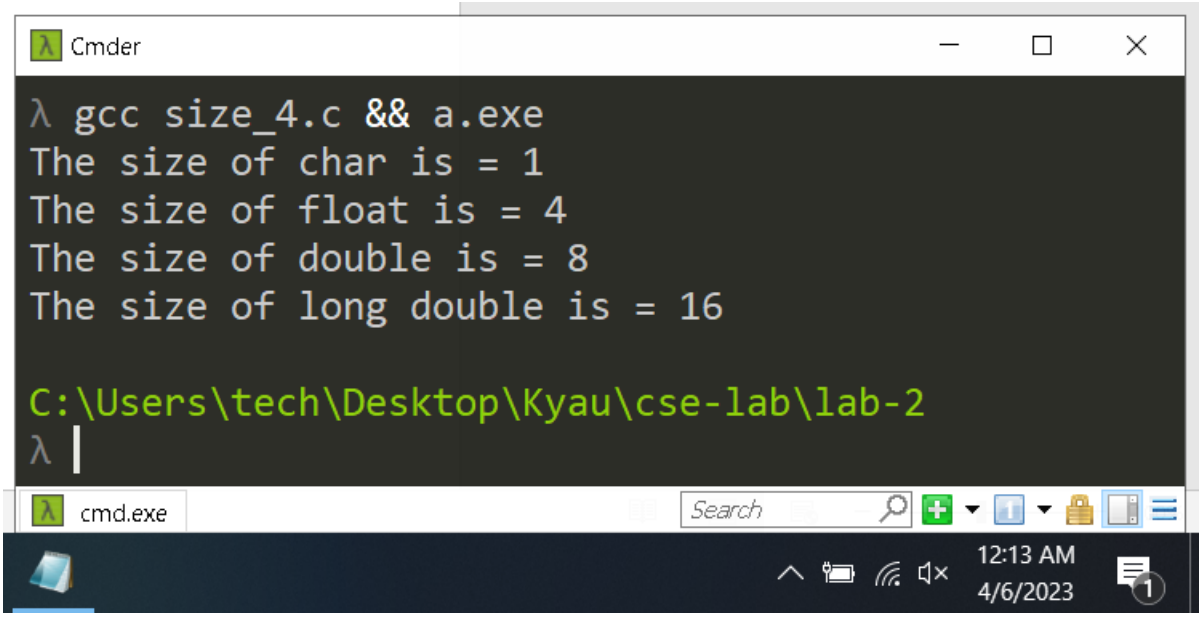


***Problem 4*: Write a program to print the size of char, float, double and long double data types in C**

**Code:**

```
#include <stdio.h>

int main()

{

   printf("The size of char is = %d\n", sizeof(char));

   printf("The size of float is = %d\n", sizeof(float));

   printf("The size of double is = %d\n", sizeof(double));

   printf("The size of long double is = %d\n", sizeof(long double));

   return 0;

}
```

**Output:**



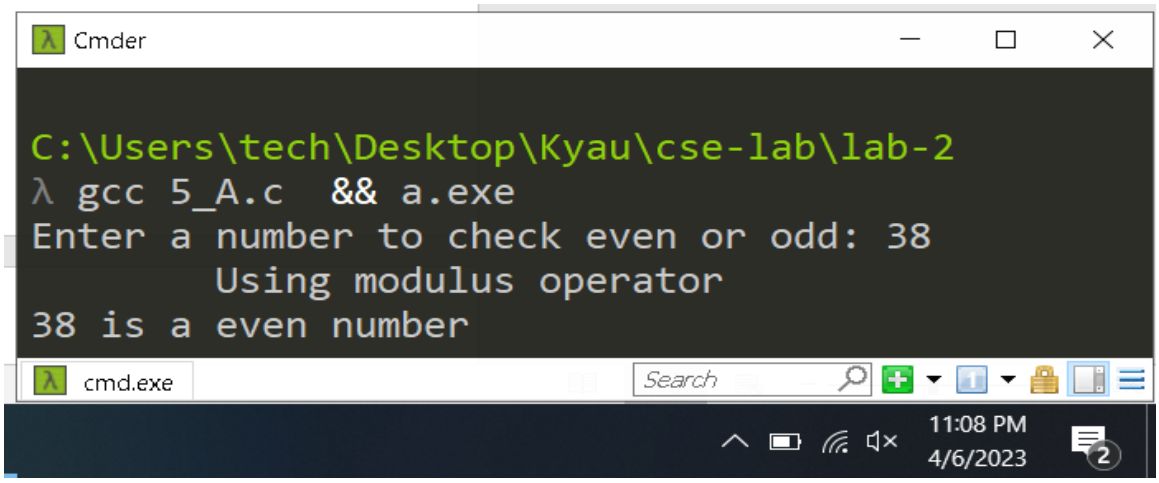
***Problem 5*: Write a program to check odd or even number (a) using modulus operator (b) using bitwise operator (c) without using bitwise and modulus operator (d) using conditional operator.**

## Answer (a ) ( using modulus operator )

**Code:**

```
 #include <stdio.h>

int main(){

   int number;

   printf("Enter a number to check even or odd: ");

   scanf("%d", &number);

   printf("\tUsing modulus operator\n");

   if (number % 2 == 0)

      printf("%d is a even number\n", number);

   else

      printf("%d is a odd number\n", number);

   return 0;

}
```

**Output:**

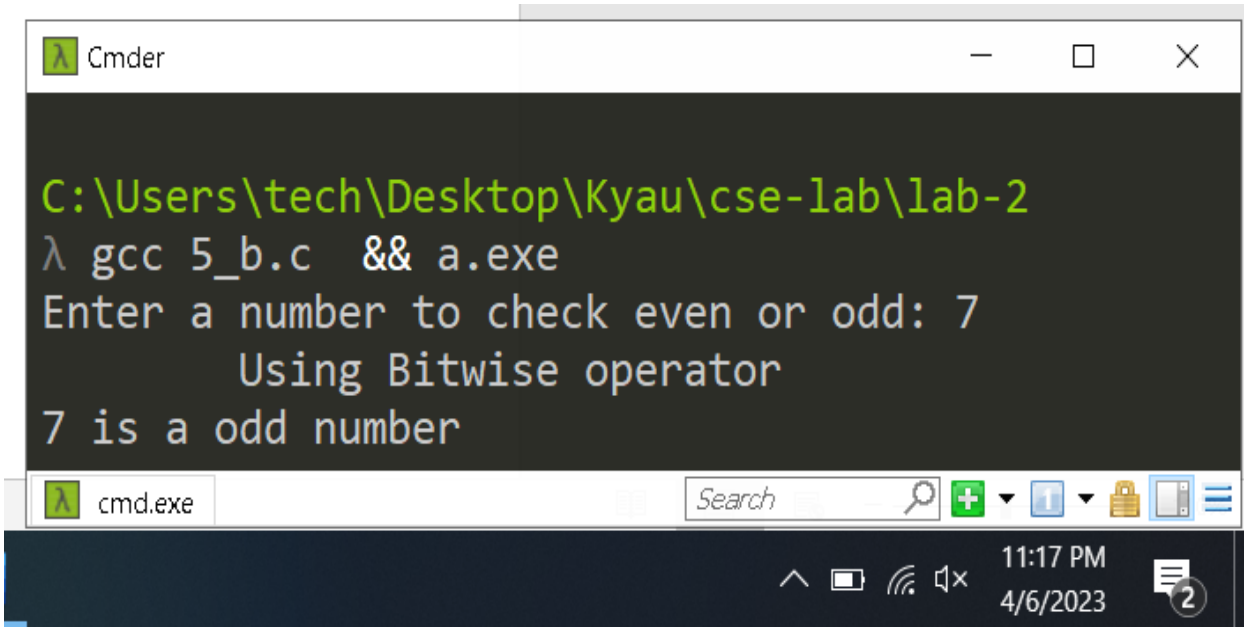


## Answer (b) ( using bitwise operator )

### Code:

```
#include <stdio.h>

int main(){

   int number;

   printf("Enter a number to check even or odd: ");

   scanf("%d", &number);

   printf("\tUsing Bitwise operator\n");

   if ((number & 1) == 0)

      printf("%d is a even number\n", number);

   else

      printf("%d is a odd number\n", number);

   return 0;

}
```

### Output:

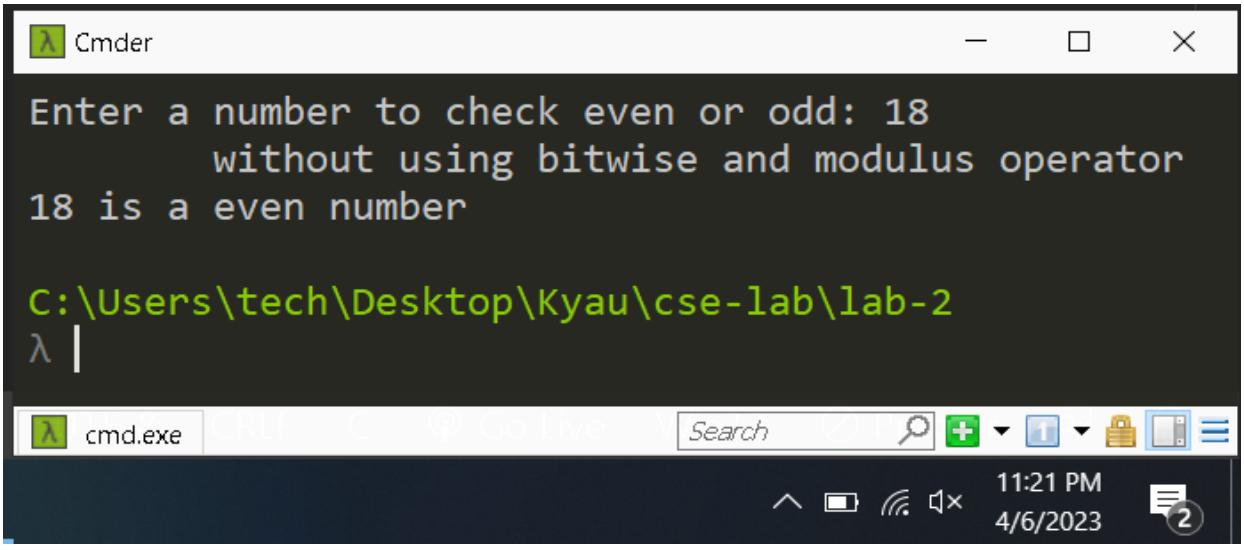


## Answer (b) (without using bitwise and modulus operator)

### Code:

```
#include <stdio.h>

int main(){

   int number;

   printf("Enter a number to check even or odd: ");

   scanf("%d", &number);

   printf("\twithout using bitwise and modulus operator\n");

   if ((number / 2) * 2 == number)

      printf("%d is a even number\n", number);

   else

      printf("%d is a odd number\n", number);

   return 0;

}
```

### Output:

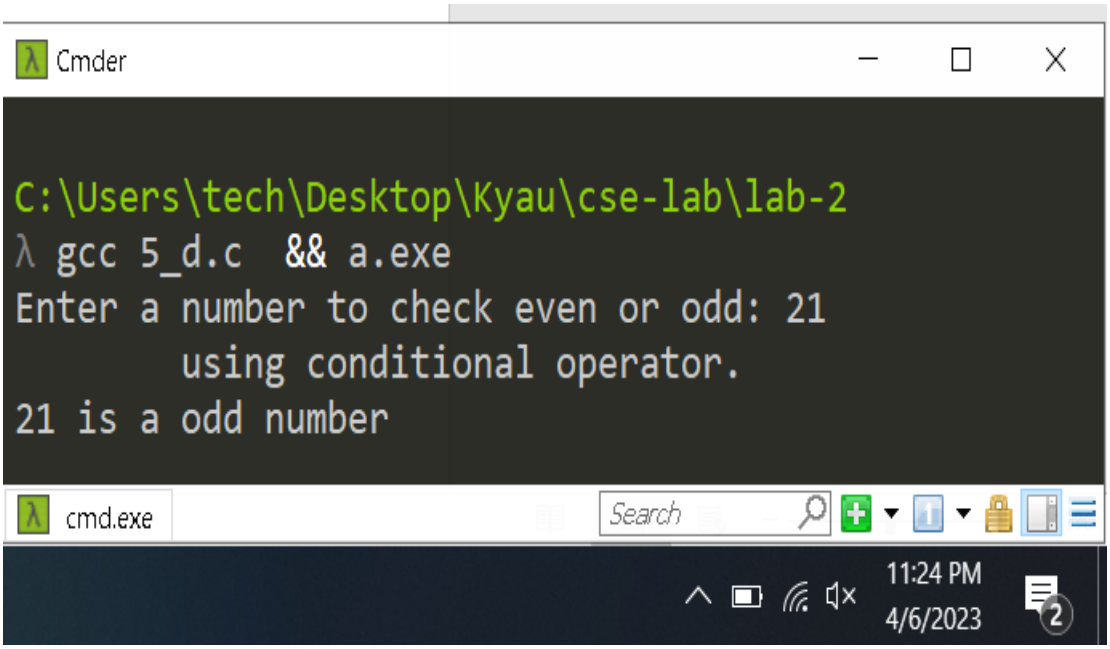


**Answer (d) (using conditional operator.)**

**Code:**

```
#include <stdio.h>

int main(){

   int number;

   printf("Enter a number to check even or odd: ");

   scanf("%d", &number);

   printf("\tusing conditional operator.\n");

   number % 2 == 0 ? printf("%d is a even number\n", number) : printf("%d is a odd number\n", number);

   return 0;

}
```

**Output:**

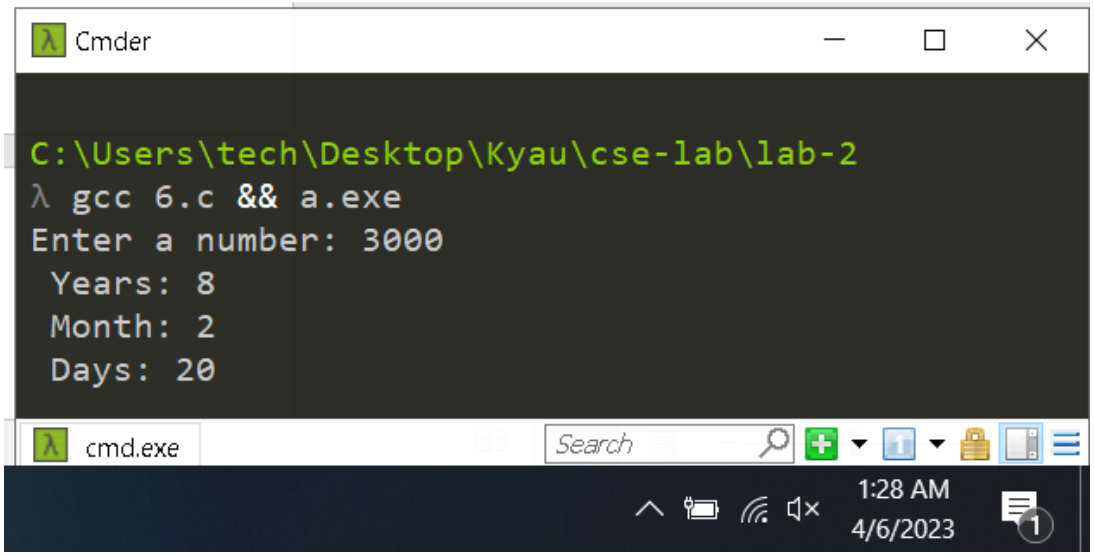


***Problem 6*: Write a program to calculate year, month and days of given days.**

**Code**:

```
#include <stdio.h>

int main()

{

   int userInput, year, month, day;

   printf("Enter a number: ");

   scanf("%d", &userInput);

   year = userInput / 365;

   month = (userInput - year * 365) / 30;

   day = (userInput - year * 365) - (month * 30);

   printf(" Years: %d\n Month: %d\n Days: %d\n", year, month, day);

   return 0;

}
```

**Output:**



**7. Write a program to take input your date of birth and calculate age.**

**Code:**

```
#include <stdio.h>

// function to calculate current age

void age(int present_date, int present_month, int present_year, int birth_date,
int birth_month, int birth_year) {

  int month[] = { 31, 28, 31, 30, 31, 30, 31, 31, 30, 31, 30, 31 };

  if (birth_date > present_date) {

    present_date = present_date + month[birth_month - 1];

    present_month = present_month - 1;

  }

  if (birth_month > present_month) {

    present_year = present_year - 1;

    present_month = present_month + 12;

  }

  int final_date = present_date - birth_date;

  int final_month = present_month - birth_month;

  int final_year = present_year - birth_year;

  printf("\nPresent Age Years: %d Months: %d Days: %d", final_year, final_month,
final_date);

}
```

```
//  main function
int main() {
   int present_date , present_month ,present_year;
   int birth_date ,birth_month ,birth_year;
   printf("Enter current Day/Month/Year: ");
   scanf("%d %d %d" ,&present_date, &present_month, &present_year);
   printf("Enter Birth Day/Month/Year: ");
   scanf("%d %d %d" ,&birth_date, &birth_month, &birth_year);
   age(present_date, present_month, present_year, birth_date, birth_month,
birth_year);
   return 0;
}
```

**Output:**