Lab Sheet – 3

1. Write a program to find the largest and smallest among three entered numbers and display whether the identified largest/smallest number is even or odd.

2. Write a program to check whether the entered year is leap year or not (a year is leap if it is divisible by 4 and divisible by 100 or 400.)

3. Write a program that asks a number and test the number whether it is multiple of 5 or not, divisible by 7 but not by eleven.

4. Write a program to read the values of coefficients a, b and c of a quadratic equation ax2+bx+c=0 and find roots of the equation.

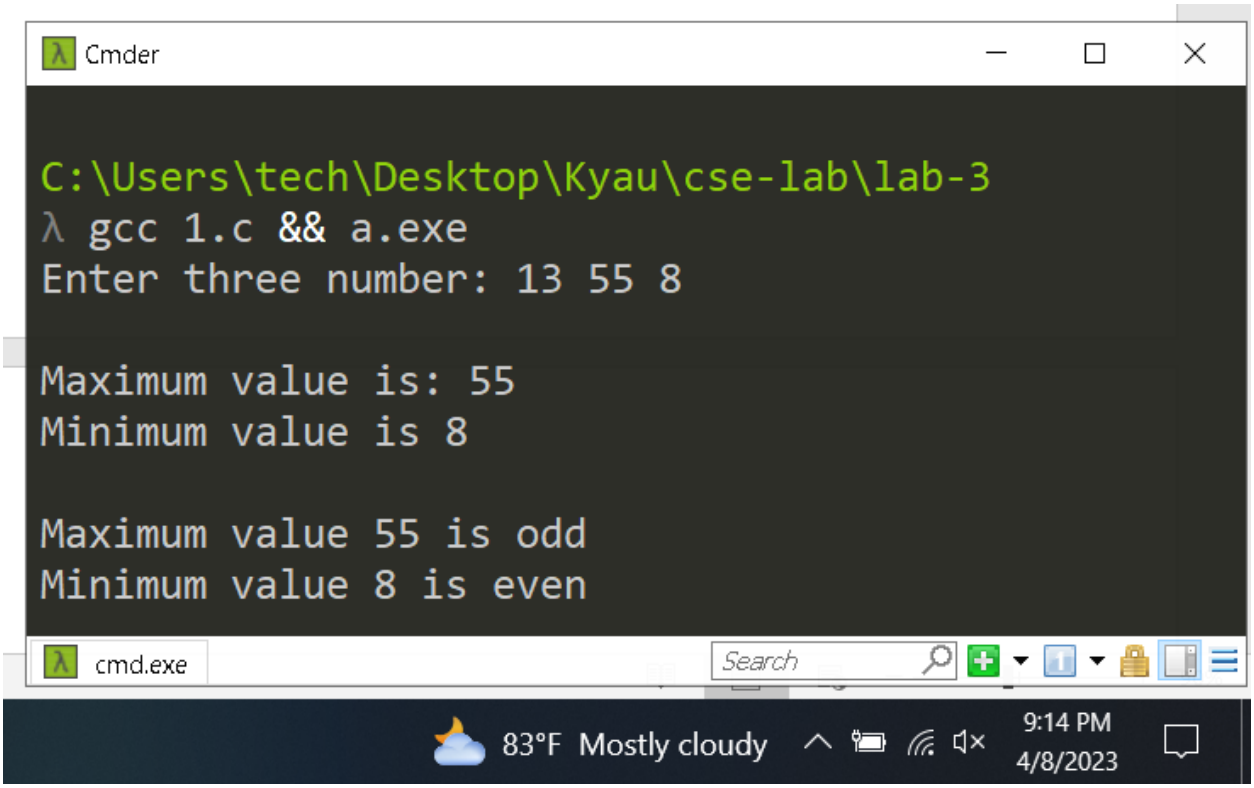
Problem 1. Write a program to find the largest and smallest among three entered numbers and display whether the identified largest/smallest number is even or odd.

Code:

```
#include <stdio.h>

int main(){

   int x, y, z, max, min;

   printf("Enter three number: ");

   scanf("%d %d %d", &x, &y, &z);

   // Find Maximum Value

   if (x > y){

      if (x > z){

         max = x;

      }else{

         max = z;

      }

   }else{

      if (y > z){

         max = y;

      }else{

         max = z;

      }

   }
```

```
// Find Minimum value
  if (x < y){
    if (x < z){
      min = x;
    }else{
      min = z;
    }
  }else{
    if (y < z){
      min = y;
    }else{
      min = z;
    }
  }

  printf("\nMaximum value is: %d\nMinimum value is %d\n\n", max, min);

  // Check even or odd between max and min number
  max % 2 == 0 ? printf("Maximum value %d is even\n", max) : printf("Maximum value %d is odd\n", max);
  min % 2 == 0 ? printf("Minimum value %d is even\n", min) : printf("Minimum value %d is odd\n", min);

  return 0;
}
```

Output:

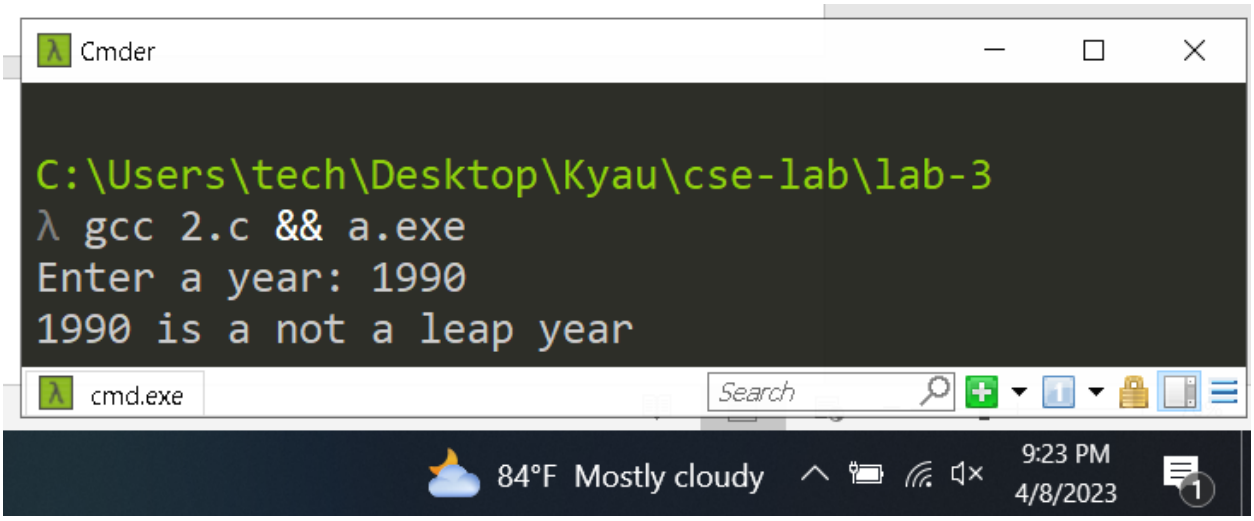

Cmder
C:\Users\tech\Desktop\Kyau\cse-lab\lab-3
λ gcc 1.c && a.exe
Enter three number: 13 55 8
Maximum value is: 55
Minimum value is 8
Maximum value 55 is odd
Minimum value 8 is even
cmd.exe
Search
83°F Mostly cloudy
9:14 PM
4/8/2023

Problem 2: **Write a program to check whether the entered year is leap year or not (a year is leap if it is divisible by 4 and divisible by 100 or 400.)**

Code:

```
#include <stdio.h>

int main() {

  int year;

  printf("Enter a year: ");

  scanf("%d", &year);

  if(year % 400 == 0){

   printf("%d is a leap year\n" , year);

  }else{

   if(year % 4 == 0 && year % 100 != 0){

       printf("%d is a leap year\n" , year);

   }else{

       printf("%d is a not a leap year\n" , year);

   }

  }

  return 0;

}
```

Output:



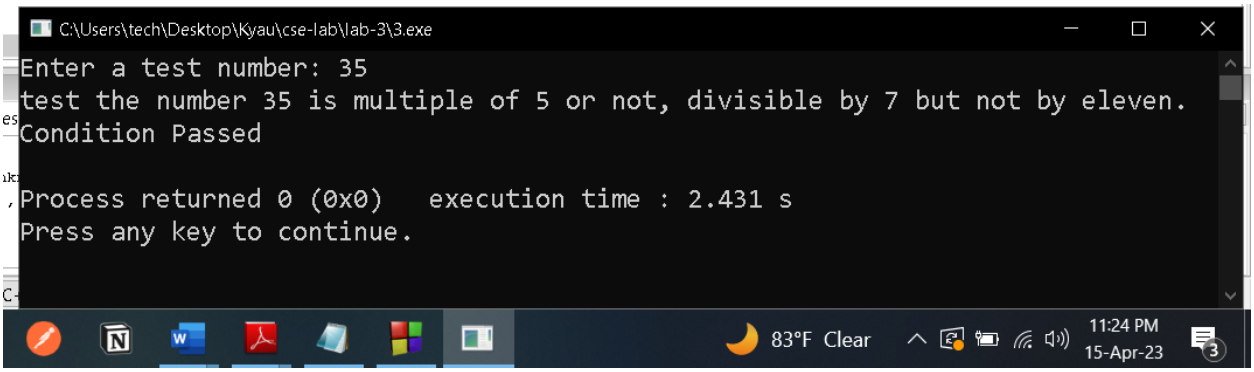
Problem 3: **Write a program that asks a number and test the number whether it is multiple of 5 or not,** divisible **by 7 but not by eleven.**

Code:

```
#include <stdio.h>

//Write a program that asks a number and test the number whether it is multiple of 5 or not,divisible by 7 but not by eleven.

int main() {

  int test_number;

  printf("Enter a test number: ");

  scanf("%d", &test_number);

   if(test_number % 5 == 0 && test_number % 7 == 0 && test_number % 11 != 0){

      printf("test the number( %d )is multiple of 5 or not, divisible by 7 but not by eleven.\n" , test_number);

      printf("Condition Passed\n");
```

```
    }else{
        printf("test the number is not( %d )is multiple of 5 or not, divisible by 7 but not by eleven.\n" , test_number);
        printf("Condition Failed\n");
    }
return 0;
}
```

Output:

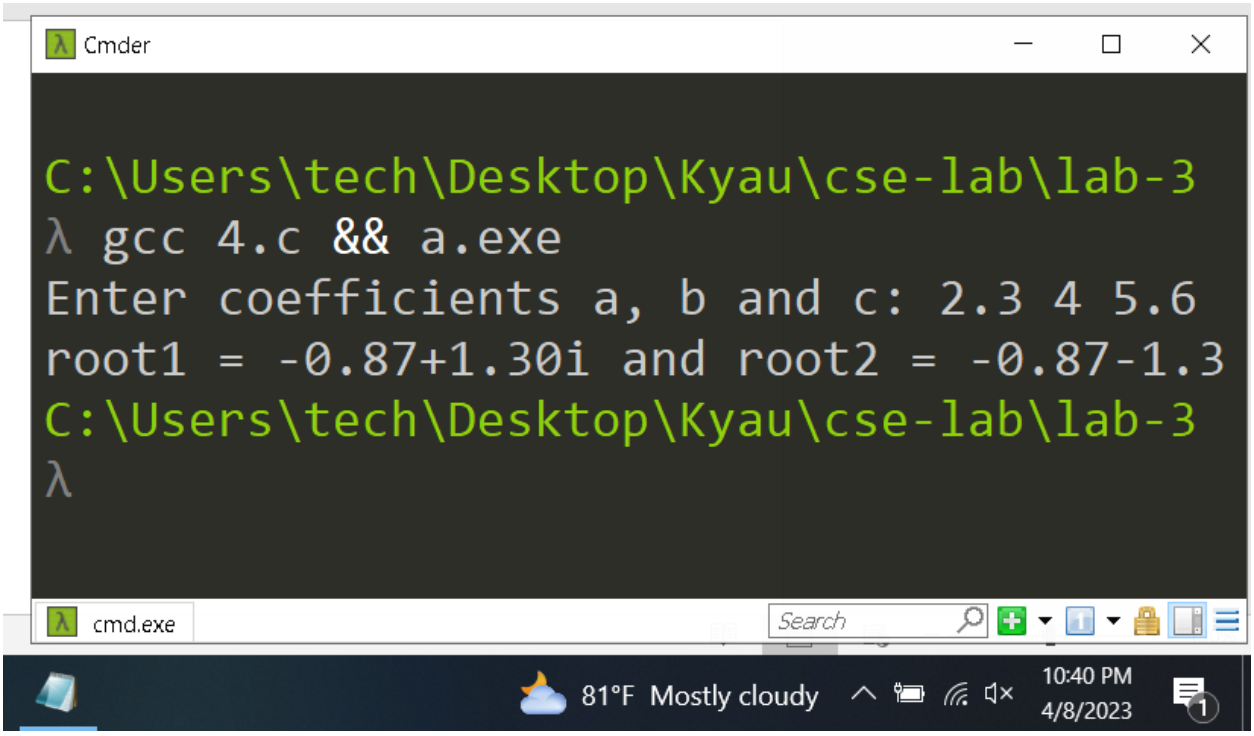


Problem 4: Write a program to read the values of coefficients a, b and c of a quadratic equation ax2+bx+c=0 and find roots of the equation.

Code:

```
#include<stdio.h>
#include<math.h>
int main(){
   double a, b, c, discriminant, root1, root2, realPart, imaginePart;
   printf("Enter coefficients a, b and c: ");
   scanf("%lf %lf %lf", &a, &b, &c);
   discriminant = (b * b) -( 4 * a * c);
   if(discriminant > 0){
       root1 = (-b + sqrt(discriminant)) / (2 * a);
      root2 = (-b - sqrt(discriminant)) / (2 * a);
      printf("root1 = %.2lf and root2 = %.2lf", root1, root2);
   }else if(discriminant == 0) {
      root1 = root2 = -b / (2 * a);
      printf("root1 = root2 = %.2lf;", root1);
   }else{
      realPart = -b / (2 * a);
      imaginePart = sqrt(-discriminant) / (2 * a);
      printf("root1 = %.2lf+%.2lfi and root2 = %.2f-%.2fi", realPart, imaginePart, realPart,
imaginePart);
   }
   return 0;    }
```

Output:


Cmder
C:\Users\tech\Desktop\Kyau\cse-lab\lab-3
λ gcc 4.c && a.exe
Enter coefficients a, b and c: 2.3 4 5.6
root1 = -0.87+1.30i and root2 = -0.87-1.3
C:\Users\tech\Desktop\Kyau\cse-lab\lab-3
λ
cmd.exe
Search
81°F Mostly cloudy
10:40 PM
4/8/2023