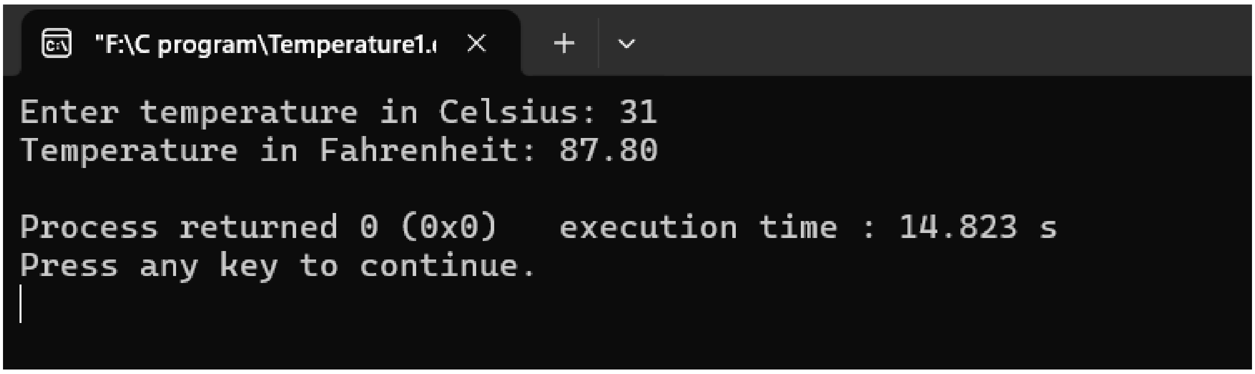
1) Write a C program to input temperature in Centigrade and convert to Fahrenheit.

Code:

```
#include <stdio.h>

int main() {

    float celsius, fahrenheit;

    printf("Enter temperature in Celsius: ");
    scanf("%f", &celsius);

    fahrenheit = (celsius * 9 / 5) + 32;

    printf("Temperature in Fahrenheit: %.2f\n", fahrenheit);

    return 0;
}
```

Output:



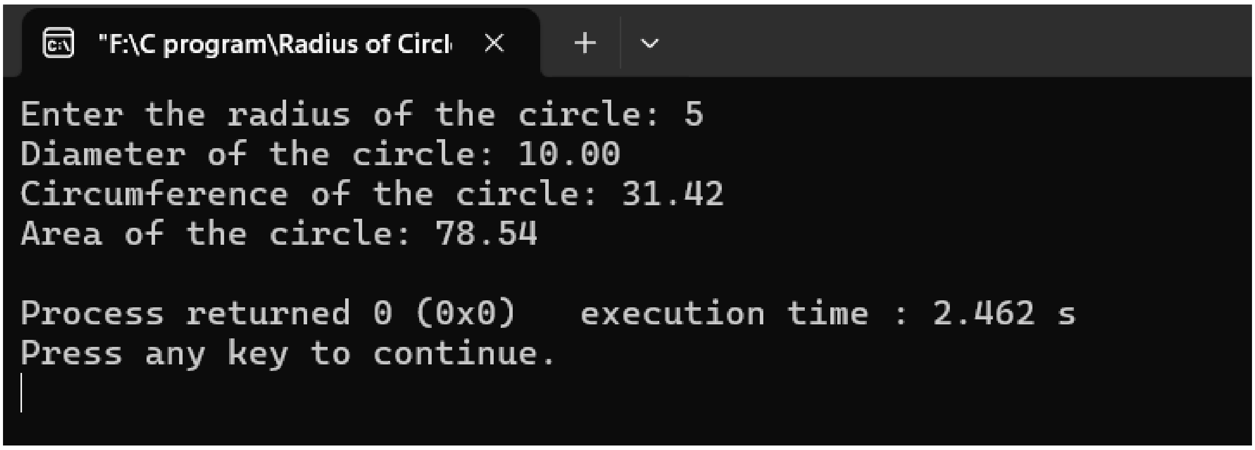
```
Enter temperature in Celsius: 31
Temperature in Fahrenheit: 87.80

Process returned 0 (0x0)   execution time : 14.823 s
Press any key to continue.
```

2) Write a C program to input radius of a circle from user and find diameter, circumference and area of the circle.

Code:

```
#include <stdio.h>
#define PI 3.141592653589793


int main() {

   double radius, diameter, circumference, area;

   printf("Enter the radius of the circle: ");


   scanf("%lf", &radius);

   diameter = 2 * radius;

   circumference = 2 * PI * radius;

   area = PI * radius * radius;


   printf("Diameter of the circle: %.2lf\n", diameter);

   printf("Circumference of the circle: %.2lf\n", circumference);

   printf("Area of the circle: %.2lf\n", area);

   return 0;
}
```

Output:



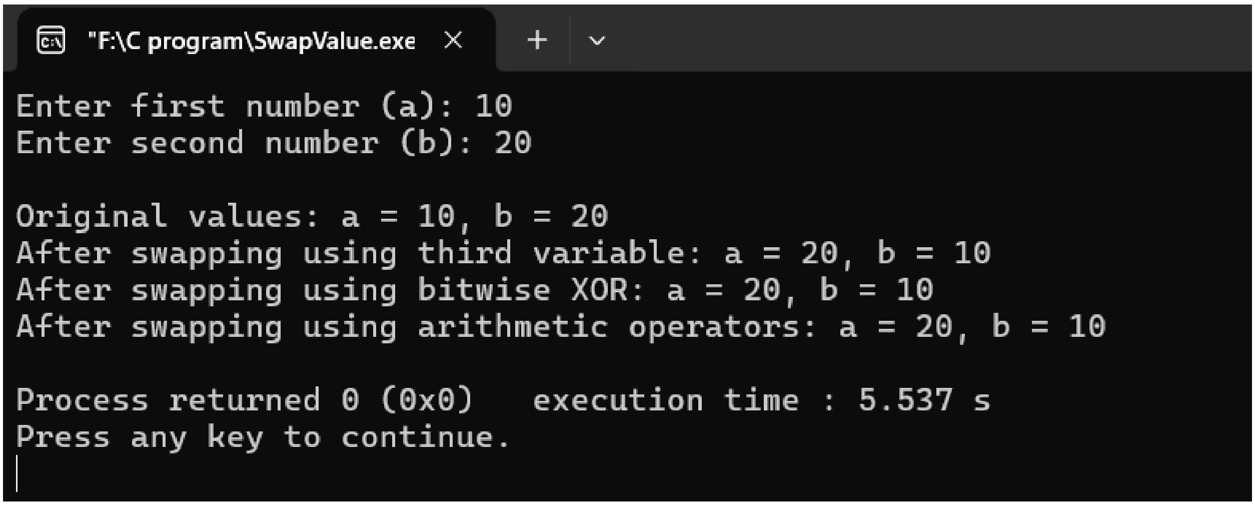
```
Enter the radius of the circle: 5
Diameter of the circle: 10.00
Circumference of the circle: 31.42
Area of the circle: 78.54

Process returned 0 (0x0)   execution time : 2.462 s
Press any key to continue.
```

3) Write a C program to input any two numbers from user and swap values of both numbers using third variable, bitwise operator and arithmetic operators.

Code:

```
#include <stdio.h>
int main() {

    int a, b;
    printf("Enter first number (a): ");

   scanf("%d", &a);

    printf("Enter second number (b): ");
    scanf("%d", &b);

    printf("\nOriginal values: a = %d, b = %d\n", a, b);


    int temp = a;
    a = b;
    b = temp;

    printf("After swapping using third variable: a = %d, b = %d\n", a, b);

    temp = a; a = b; b = temp;
    a = a ^ b;
    b = a ^ b;
    a = a ^ b;

    printf("After swapping using bitwise XOR: a = %d, b = %d\n", a, b);

    a = a ^ b; b = a ^ b; a = a ^ b;
    a = a + b;
    b = a - b;
    a = a - b;

    printf("After swapping using arithmetic operators: a = %d, b = %d\n", a, b);
    return 0;
}
```

Output:



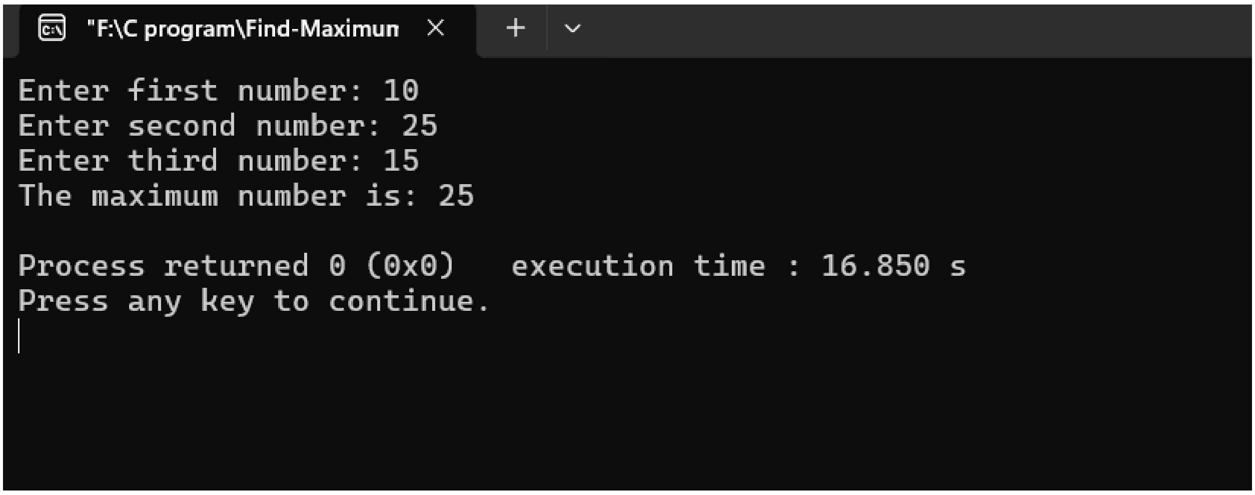
```
Enter first number (a): 10
Enter second number (b): 20

Original values: a = 10, b = 20
After swapping using third variable: a = 20, b = 10
After swapping using bitwise XOR: a = 20, b = 10
After swapping using arithmetic operators: a = 20, b = 10

Process returned 0 (0x0)   execution time : 5.537 s
Press any key to continue.
```

4) Write a C program to find maximum between three numbers using ladder if else or nested if.

Code:

```
#include <stdio.h>
int main() {
int num1, num2, num3, max;

 printf("Enter first number: ");
    scanf("%d", &num1);

printf("Enter second number: ");
    scanf("%d", &num2);

printf("Enter third number: ");
    scanf("%d", &num3);

    if (num1 > num2) {
        if (num1 > num3) {
            max = num1;
        } else {
            max = num3;
        }
    } else {
        if (num2 > num3) {
            max = num2;
        } else {
            max = num3;
        }
    }

    printf("The maximum number is: %d\n", max);

    return 0;
}
```

Output:



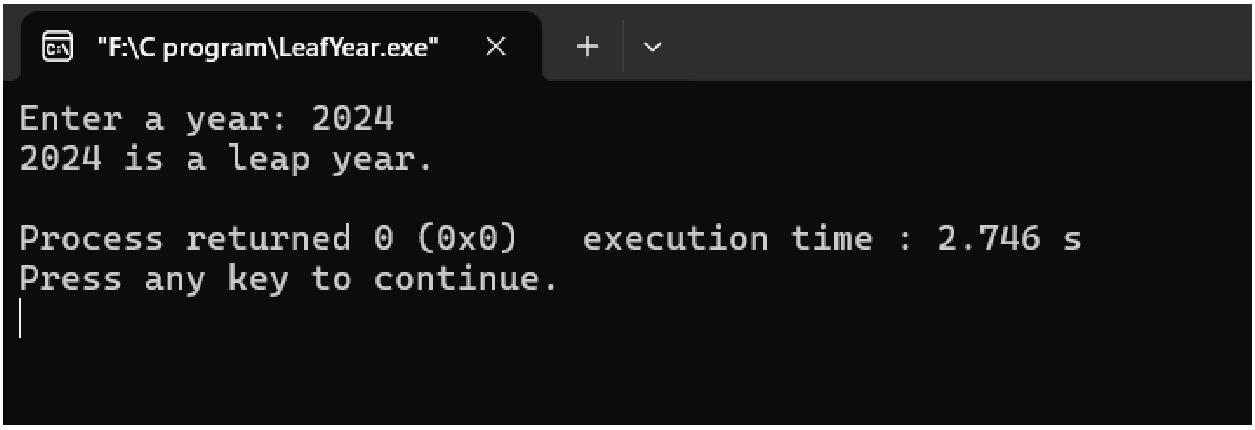
```
Enter first number: 10
Enter second number: 25
Enter third number: 15
The maximum number is: 25

Process returned 0 (0x0)   execution time : 16.850 s
Press any key to continue.
```

5) Write a C program to check a given year is leap year or not.

Code:

```
#include <stdio.h>

int main() {


    int year;
    printf("Enter a year: ");

    scanf("%d", &year);

    if ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0)) {

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


    } else {

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

    }
    return 0;
}
```

Output:



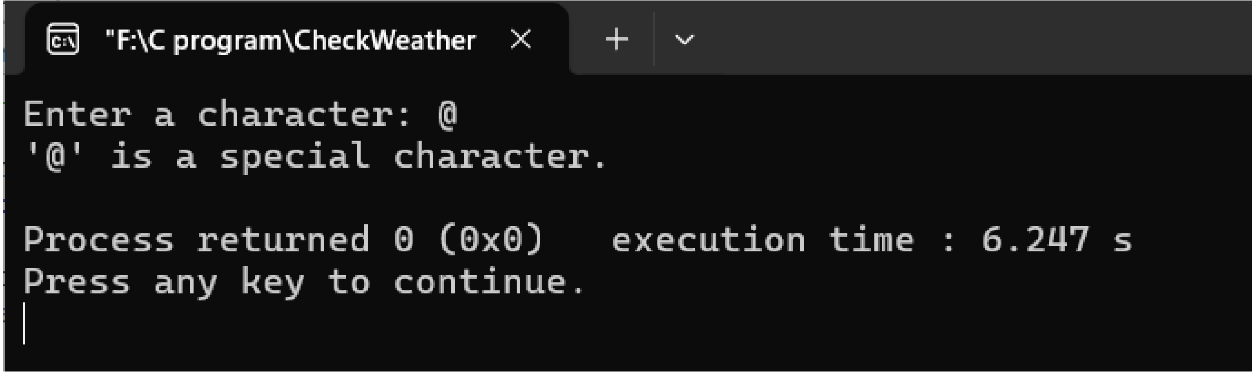
```
Enter a year: 2024
2024 is a leap year.

Process returned 0 (0x0)   execution time : 2.746 s
Press any key to continue.
```

6) Write a C program to input a character from user and check whether given character is alphabet, uppercase, lowercase, digit or special character.

Code:

```
#include <stdio.h>
int main() {

   char ch;
   printf("Enter a character: ");
   scanf("%c", &ch);


   if (ch >= 'A' && ch <= 'Z') {


      printf("'%c' is an uppercase alphabet.\n", ch);

   }
   else if (ch >= 'a' && ch <= 'z') {


      printf("'%c' is a lowercase alphabet.\n", ch);

   }
   else if (ch >= '0' && ch <= '9') {


      printf("'%c' is a digit.\n", ch);

   }
   else {
      printf("'%c' is a special character.\n", ch);

   }
   return 0;
}
```

Output:



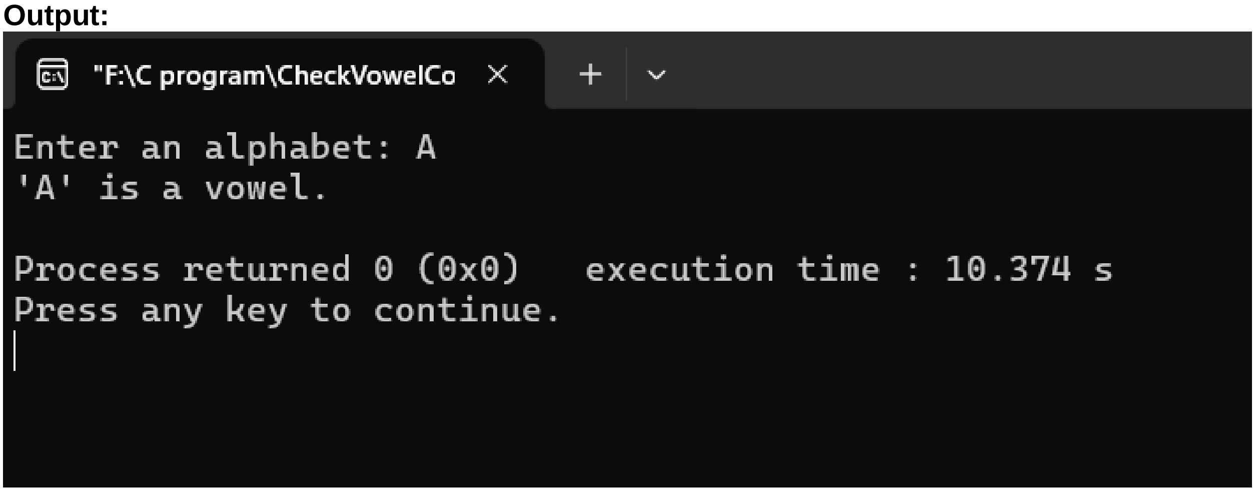
```
Enter a character: @
'@' is a special character.

Process returned 0 (0x0)   execution time : 6.247 s
Press any key to continue.
```

7) Write a C program to check whether an alphabet is vowel or consonant.

Code:

```
#include <stdio.h>
int main() {

    char ch;
    printf("Enter an alphabet: ");
    scanf("%c", &ch);


    if ((ch >= 'A' && ch <= 'Z') || (ch >= 'a' && ch <= 'z')) {
        if (ch == 'A' || ch == 'E' || ch == 'I' || ch == 'O' || ch == 'U' ||
            ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u') {

            printf("'%c' is a vowel.\n", ch);

        } else {

            printf("'%c' is a consonant.\n", ch);
        }
    } else {

        printf("'%c' is not an alphabet.\n", ch);
    }
  return 0;
}
```

Output:



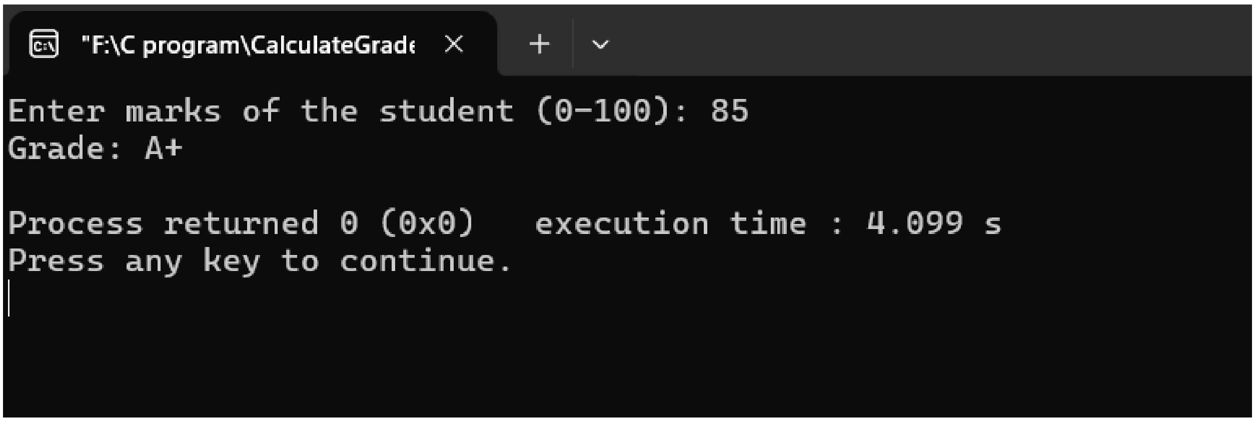
```
Enter an alphabet: A
'A' is a vowel.

Process returned 0 (0x0)   execution time : 10.374 s
Press any key to continue.
```

8) Write a C program to calculate grade of student. If
(i) number >= 80: Grade A+
(ii) number >= 70: Grade A
(iii) number between 60 to 70: Grade A-
(iv) number between 50 to 60: Grade B
(v) number >= 40: Grade C
and number < 40: Grade F.

Code:

```
#include <stdio.h>

int main() {
    int marks;

    printf("Enter marks of the student (0-100): ");
    scanf("%d", &marks);

    if (marks >= 80 && marks <= 100) {
        printf("Grade: A+\n");
    }
    else if (marks >= 70) {
        printf("Grade: A\n");
    }
    else if (marks >= 60) {
        printf("Grade: A-\n");
    }
    else if (marks >= 50) {
        printf("Grade: B\n");
    }
    else if (marks >= 40) {
        printf("Grade: C\n");
    }
    else if (marks < 40 && marks >= 0) {
        printf("Grade: F\n");
    }
    else {
        printf("Invalid marks entered!\n");
    }

    return 0;
}
```

Output:



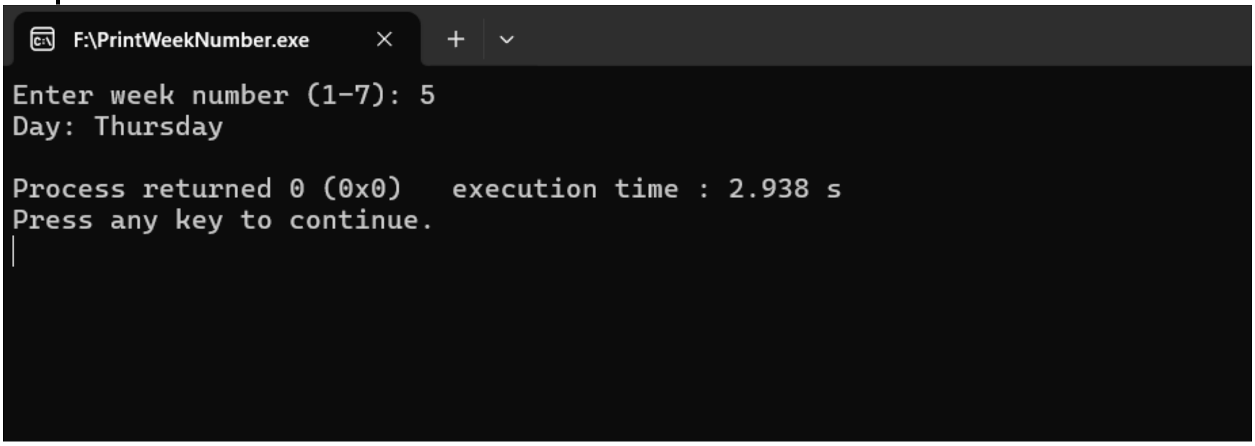
```
Enter marks of the student (0-100): 85
Grade: A+

Process returned 0 (0x0)   execution time : 4.099 s
Press any key to continue.
```

9) Write a C program to input week number and print day of week name using switch case.

Code:

```
#include <stdio.h>

int main() {
    int weekNumber;

    printf("Enter week number (1-7): ");
    scanf("%d", &weekNumber);

    switch(weekNumber) {
        case 1:
            printf("Day: Sunday\n");
            break;
       case 2:
            printf("Day: Monday\n");
            break;
        case 3:
            printf("Day: Tuesday\n");
            break;
        case 4:
            printf("Day: Wednesday\n");
            break;
        case 5:
            printf("Day: Thursday\n");
            break;

     case 6:
            printf("Day: Friday\n");
            break;
        case 7:
            printf("Day: Saturday\n");
            break;
        default:
            printf("Invalid week number! Please enter a number between 1 and 7.\n");
    }

    return 0;
}
```

Output:



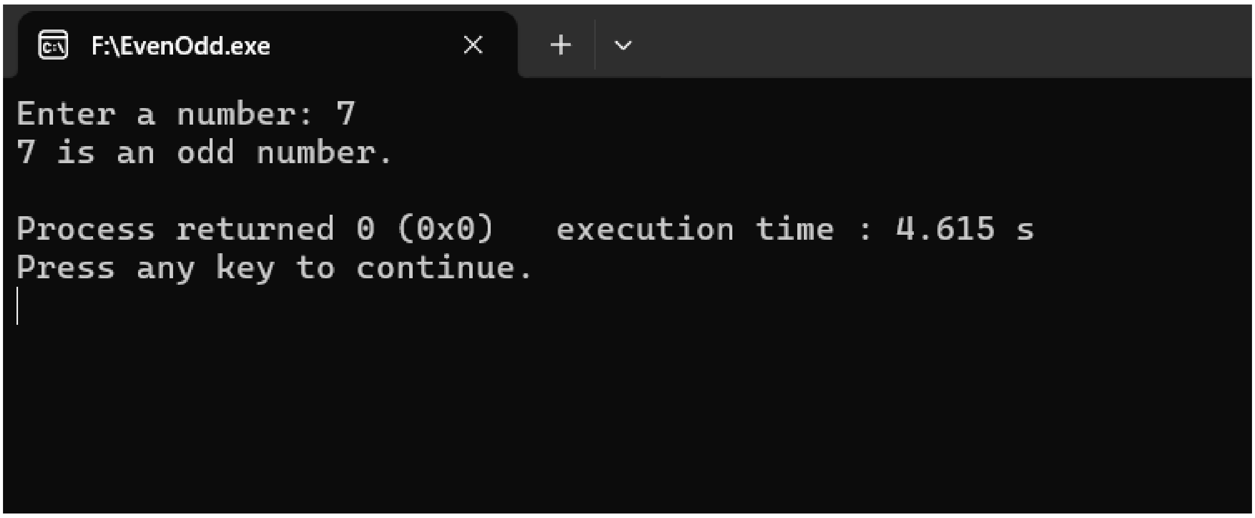
```
Enter week number (1-7): 5
Day: Thursday

Process returned 0 (0x0)   execution time : 2.938 s
Press any key to continue.
```

10) Write a C program to input a number and check the given number is odd or even.

code:

```
#include <stdio.h>
int main() {
   int num;

   printf("Enter a number: ");
   scanf("%d", &num);

   if (num % 2 == 0) {

       printf("%d is an even number.\n", num);
   } else {

       printf("%d is an odd number.\n", num);
   }
   return 0;
}
```

Output:



```
Enter a number: 7
7 is an odd number.

Process returned 0 (0x0)   execution time : 4.615 s
Press any key to continue.
```