

Task # 4: Grade Calculator

The screenshot shows a C++ IDE with a file named `main5.cpp`. The code is as follows:

```

3  int main()
4  {
5      int score;
6
7      // Taking input
8      printf("Enter the student's score: ");
9      scanf("%d", &score);
10
11     if (score >= 90) {
12         printf("Grade: A\n");
13     }
14     else if (score >= 80) {
15         printf("Grade: B\n");
16     }
17     else if (score >= 70) {
18         printf("Grade: C\n");
19     }
20     else if (score >= 60) {
21         printf("Grade: D\n");
22     }
23     else {
24         printf("Grade: F\n");
25     }
26
27     return 0;
28 }

```

The execution output window shows the following text:

```

Select C:\Users\De\Documents\task 7 lab 4.exe
Enter the student's score: 68
Grade: D
-----
Process exited after 4.913 seconds with return value 0
Press any key to continue . . .

```

Task # 5: Traffic Signal Control

The screenshot shows a C++ IDE with a file named `main5.cpp`. The code is as follows:

```

1  #include <stdio.h>
2
3  int main()
4  {
5      int color;
6
7      // Taking input
8      printf("Enter traffic light color (1 for Red, 2 for Yellow, 3 for Green): ");
9      scanf("%d", &color);
10
11     // Using switch-case
12     switch (color) {
13         case 1:
14             printf("Action: Stop\n");
15             break;
16         case 2:
17             printf("Action: Ready\n");
18             break;
19         case 3:
20             printf("Action: Go\n");
21             break;
22         default:
23             printf("Invalid input! Please enter 1, 2, or 3.\n");
24     }
25
26     return 0;
27 }

```

The execution output window shows the following text:

```

Select C:\Users\De\Documents\task 7 lab 4.exe
Enter traffic light color (1 for Red, 2 for Yellow, 3 for Green): 3
Action: Go
-----
Process exited after 3.851 seconds with return value 0
Press any key to continue . . .

```

Task # 6: Basic Calculator

The screenshot shows a C++ IDE with a file named `main5.cpp`. The code implements a basic calculator with the following logic:

```

1  #include <stdio.h>
2
3  int main() {
4      double num1, num2;
5      char op;
6
7      // Taking input
8      printf("Enter first number: ");
9      scanf("%lf", &num1);
10
11     printf("Enter an operator (+, -, *, /): ");
12     scanf("%c", &op);
13
14     printf("Enter second number: ");
15     scanf("%lf", &num2);
16
17     switch (op) {
18         case '+':
19             printf("Result: %.2lf\n", num1 + num2);
20             break;
21         case '-':
22             printf("Result: %.2lf\n", num1 - num2);
23             break;
24         case '*':
25             printf("Result: %.2lf\n", num1 * num2);
26             break;
27         case '/':
28             if (num2 != 0)
29                 printf("Result: %.2lf\n", num1 / num2);
30             else
31                 printf("Error: Division by zero is not allowed.\n");
32             break;
33         default:
34             printf("Invalid operator! Please use +, -, *, or ./\n");
35     }
36
37     return 0;
38 }

```

The execution window shows the following output:

```

C:\Users\De\Documents\task 7 lab 4.exe
Enter first number: 4
Enter an operator (+, -, *, /): *
Enter second number: 5
Result: 20.00

-----
Process exited after 12.05 seconds with return value 0
Press any key to continue . . .

```

Task # 7: Leap Year Check

The screenshot shows a C++ IDE with a file named `main3.cpp`. The code implements a leap year check with the following logic:

```

1  #include <stdio.h>
2
3  int main() {
4      int year;
5
6      // Taking input
7      printf("Enter a year: ");
8      scanf("%d", &year);
9
10     // Conditions:
11     // 1. Divisible by 4 and not divisible by 100,
12     // 2. Divisible by 400
13
14     if ((year % 4 == 0 && year % 100 != 0) || (year % 400 == 0))
15     {
16         printf("%d is a Leap Year.\n", year);
17     }
18     else {
19         printf("%d is NOT a Leap Year.\n", year);
20     }
21
22     return 0;
23 }

```

The execution window shows the following output:

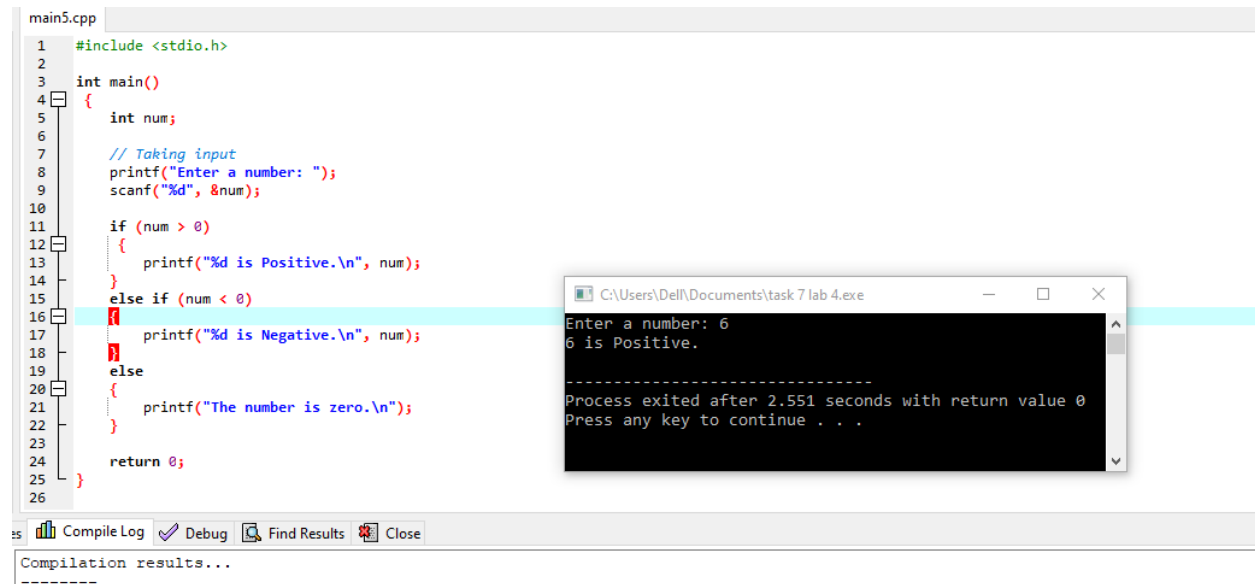
```

C:\Users\De\Documents\task 7 lab 4.exe
Enter a year: 2022
2022 is NOT a Leap Year.

-----
Process exited after 4.657 seconds with return value 0
Press any key to continue . . .

```

Task # 8: Number Sign Checker

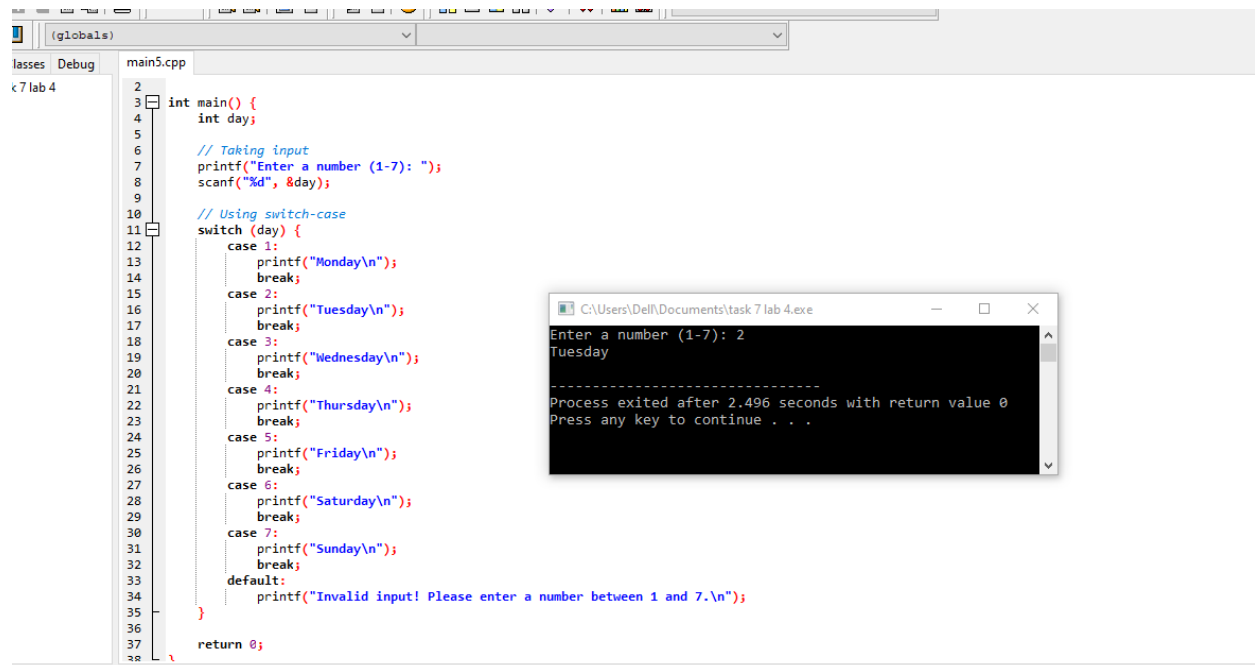


```
main5.cpp
1  #include <stdio.h>
2
3  int main()
4  {
5      int num;
6
7      // Taking input
8      printf("Enter a number: ");
9      scanf("%d", &num);
10
11     if (num > 0)
12     {
13         printf("%d is Positive.\n", num);
14     }
15     else if (num < 0)
16     {
17         printf("%d is Negative.\n", num);
18     }
19     else
20     {
21         printf("The number is zero.\n");
22     }
23
24     return 0;
25 }
26
```

Compilation results...

Process exited after 2.551 seconds with return value 0
Press any key to continue . . .

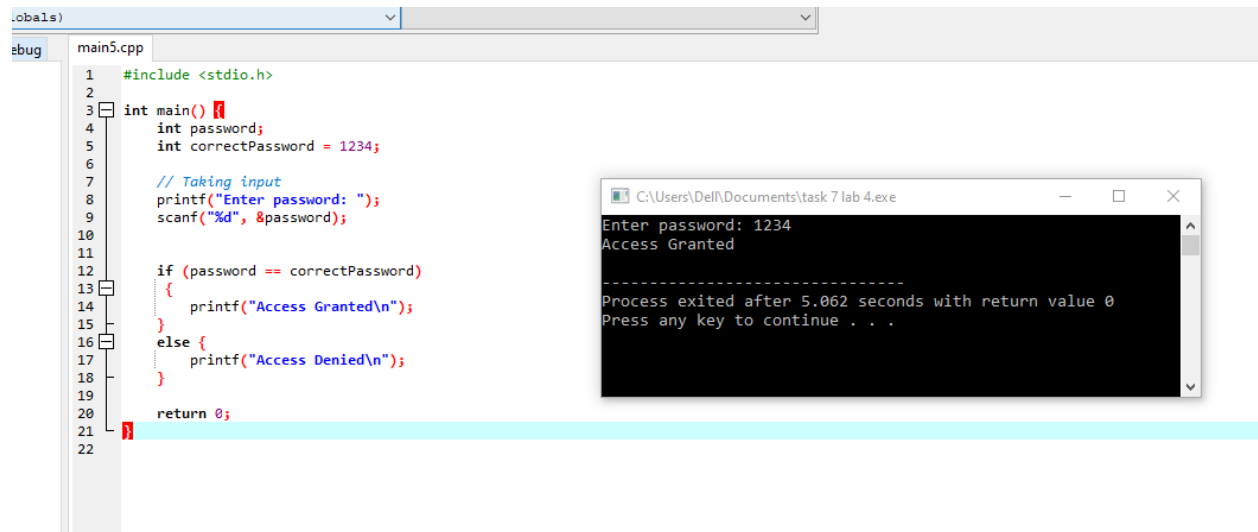
Task # 9: Day Name from Number



```
main5.cpp
2  int main() {
3      int day;
4
5      // Taking input
6      printf("Enter a number (1-7): ");
7      scanf("%d", &day);
8
9      // Using switch-case
10     switch (day) {
11         case 1:
12             printf("Monday\n");
13             break;
14         case 2:
15             printf("Tuesday\n");
16             break;
17         case 3:
18             printf("Wednesday\n");
19             break;
20         case 4:
21             printf("Thursday\n");
22             break;
23         case 5:
24             printf("Friday\n");
25             break;
26         case 6:
27             printf("Saturday\n");
28             break;
29         case 7:
30             printf("Sunday\n");
31             break;
32         default:
33             printf("Invalid input! Please enter a number between 1 and 7.\n");
34     }
35
36     return 0;
37 }
38
```

Process exited after 2.496 seconds with return value 0
Press any key to continue . . .

Task # 10. Simple Password Validator



The image shows a C++ IDE with a file named `main5.cpp` open. The code is a simple password validator. It includes `<stdio.h>`, defines a `main` function, declares `password` and `correctPassword` (set to 1234), prompts the user for a password, and checks if the input matches the correct password. If it matches, it prints "Access Granted"; otherwise, it prints "Access Denied". The program returns 0.

```
1 #include <stdio.h>
2
3 int main()
4 {
5     int password;
6     int correctPassword = 1234;
7
8     // Taking input
9     printf("Enter password: ");
10    scanf("%d", &password);
11
12    if (password == correctPassword)
13    {
14        printf("Access Granted\n");
15    }
16    else {
17        printf("Access Denied\n");
18    }
19
20    return 0;
21 }
22
```

Next to the code editor is a terminal window titled `C:\Users\Dell\Documents\task 7 lab 4.exe`. It shows the program's execution: the prompt "Enter password: 1234" is followed by the output "Access Granted". Below this, a separator line is shown, followed by the message "Process exited after 5.062 seconds with return value 0" and "Press any key to continue . . .".