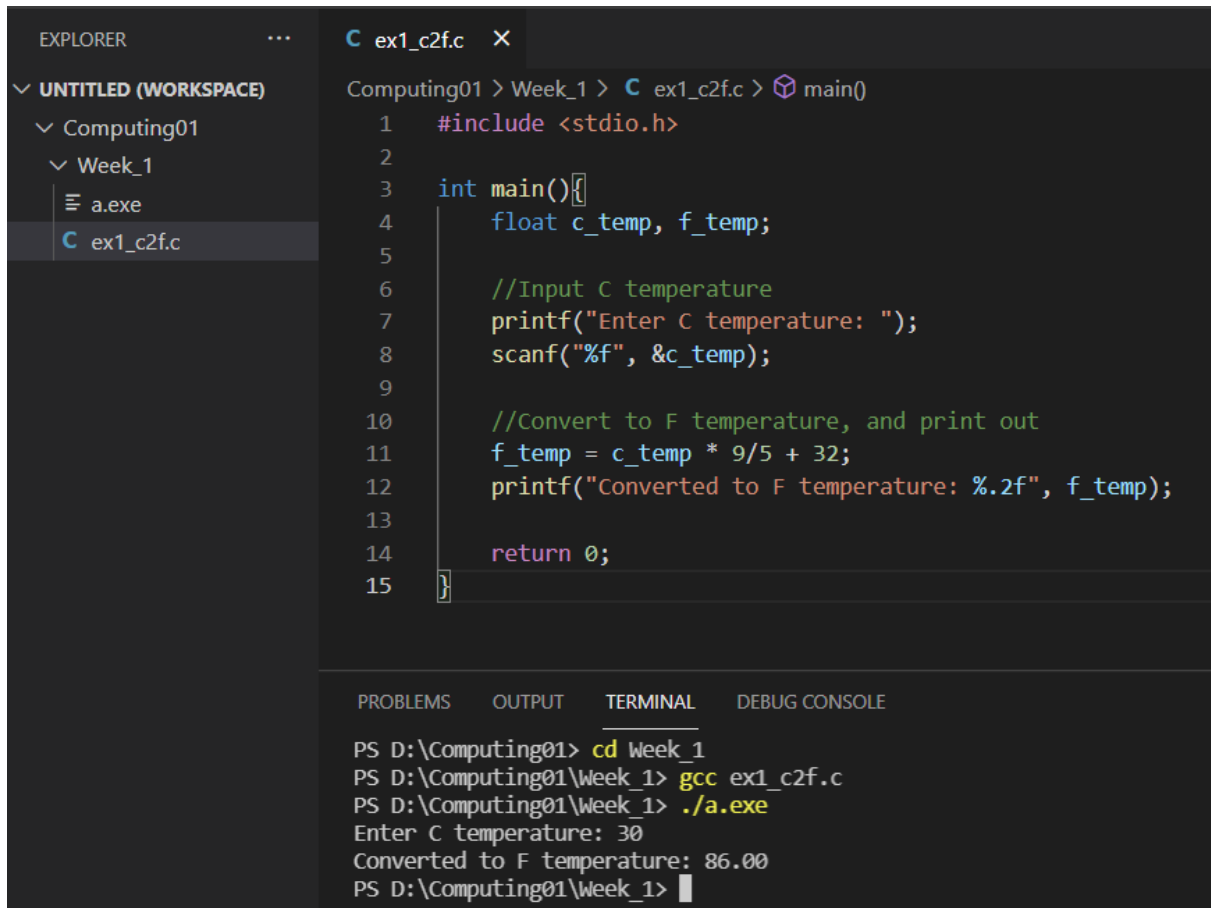


EEET2601 Engineering Computing 1

Lab – Variables, Data Types & Operators

1. The program below gets a Celsius temperature then convert it to Fahrenheit (conversion formula can be found [here](#)).
 - a. Create a program namely **ex1_c2f.c** with the content as below



The screenshot displays a code editor with a dark theme. On the left, the 'EXPLORER' sidebar shows a project structure: 'UNTITLED (WORKSPACE)' containing 'Computing01', which in turn contains 'Week_1'. Inside 'Week_1', there are two files: 'a.exe' and 'ex1_c2f.c'. The 'ex1_c2f.c' file is selected and open in the main editor. The code in the editor is as follows:

```
1  #include <stdio.h>
2
3  int main()
4  {
5      float c_temp, f_temp;
6
7      //Input C temperature
8      printf("Enter C temperature: ");
9      scanf("%f", &c_temp);
10
11     //Convert to F temperature, and print out
12     f_temp = c_temp * 9/5 + 32;
13     printf("Converted to F temperature: %.2f", f_temp);
14
15     return 0;
16 }
```

Below the code editor, the 'TERMINAL' tab is active, showing the command prompt output:

```
PS D:\Computing01> cd Week_1
PS D:\Computing01\Week_1> gcc ex1_c2f.c
PS D:\Computing01\Week_1> ./a.exe
Enter C temperature: 30
Converted to F temperature: 86.00
PS D:\Computing01\Week_1> |
```

- b. Run and test it with some values, such a 30, 0, 100.
 - c. Is there any part of the program that you don't understand? If yes, review the lecture content and discuss within your group. Otherwise, you are ready to do the next exercises.

Similar to Ex1, write a program for each of the following exercises.

2. Get an amount in VND then convert it to USD. Assume that the exchange rate of 1 USD to VND is 23,150 VND.
3. Get two numbers x , y and find x^y using the [pow\(\)](#) function from the [math.h](#) library. Hint: use the option **-lm** (e.g. **gcc main.c -lm**) when compiling your program.
4. In an imaginary course, there are three assessments **asmt1**, **asmt2**, and **asmt3** whose weights are 30%, 30% and 40% respectively. Get the values of **asmt1**, **asmt2**, and **asmt3** from the user in one line then compute the final result and print it with two digits after the decimal. Assume that the values that the user enters are always integers between 0 and 100.

Here is a sample run.

```
Enter 3 assessment scores: 68 82 77
The final result is 75.80
```

5. Get an integer as minutes then calculate its equivalent in hours and remaining minutes. For example, 768 minutes is 12 hours 48 minutes. Hint: use the **/** and **%** operator.
6. Get an integer from the user then calculate the sum of all the digits in that integer. For example, if the integer is **932**, the sum of all the digits is $9 + 3 + 2 = 14$.

Assume that the input integer is always between 0 and 999. You are only allowed to apply the concepts learned so far to solve this problem. Hint: use the **/** and **%** operator.