Week 1: C Programming Practical Problems

1. Write a C code to enter and display time in hour: minute: second, uisng scanf ( ) command for input these values.

2. Write a C program to print the following student's personal information. Expected Output:

Name:	Zhang San
Student Number:	233791
DOB:	12 December 2003
Birth Place:	Hangzhou
Nationality:	Chinese
School:	School of Information and Electronic Engineering
Class:	AI2022

3. Write a C program to ask user input five characters. Then print the characters in a reverse way.

4. Write a C program that accepts three floating-point numbers from the user and calculate the sum and the product of the three numbers. Print the results to two decimal places.

5. Write a C program to convert an input integer (in seconds) to hours, minutes and seconds.

6. Write a C program to compute the volume of a sphere with a user input **diameter**.

7. Create a new .c source file in Dev-C++ and enter the source code listed below. Remember to use the tab key to indent lines. Compile the program and check that the output is as you would expect, before completing the following tasks. At each stage recompile and confirm the program does what you would expect.

```
#include <stdio.h>
int main()
{
    int i;
    float j;
    i = 0;
    while (i <= 15)
    {
        i = i + 1;
        j = i/2;
        printf("%d divided by 2 is equal to %.1f\n", i , j);
    }
     getchar();   // wait here
```

```
    return 0;
}
```

A. Observe the output. Does the program print the correct values? If not, can you fix it by changing the type of variable i? You can try modifying the type of variable i when declaring it, or adopting explicit type conversion at j=i/2;

B. Replace i=i+1; with i++;

C. Replace the value 15 in the while loop expression with a symbolic constant

D. Save a few lines of code by calculating the value i/2 inside the printf statement.

E. Give i an initial value at the same time as declaring it.