ECS-102 LAB TASK 1 - C OUTPUT AND PRINTF COMMAND

Example 1: C Output

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

    printf("C Programming");
    return 0;
}
```

Output

```
C Programming
```

How does this program work?

- All valid C programs must contain the `main()` function. The code execution begins from the start of the `main()` function.
- The `printf()` is a library function to send formatted output to the screen. The function prints the string inside quotations.
- To use `printf()` in our program, we need to include `stdio.h` header file using the `#include <stdio.h>` statement.
- The `return 0;` statement inside the `main()` function is the "Exit status" of the program. It's optional.

Try yourself

See what happens if you….

1) Remove the semicolon after printf().

2) Use void main() instead of int main(). Is return 0 command required now?

3) Try removing curly braces.

Example 2: Integer Output

```
#include <stdio.h>
int main()
{
    int testInteger = 5;
    printf("Number = %d\n", testInteger);
    printf("end\n");
    return 0;
}
```

Output

```
Number = 5
end
```

We use `%d` format specifier to print `int` types. Here, the `%d` inside the quotations will be replaced by the value of *`testInteger`*.

\n is used for next line.

Format Specifiers for I/O

As you can see from the above examples, we use

- `%d` for `int`

Now similarly use this format specifiers for :

- `%f` for `float`
- `%lf` for `double`
- `%c` for `char`

LAB TASK:

1. Write a program to enter two numbers where number1 is a float type and number2 is double type.

Expected Output

```
number1 = 13.500000
number2 = 12.400000
```

(Hint: To print `float`, we use `%f` format specifier. Similarly, we use `%lf` to print `double` values.)

2. WAP to print character ‘a’.

Expected Output

```
character = a
```

(Hint: To print `char`, we use `%c` format specifier.)

3. WAP to print this screen.

Expected Output

```
          *****Welcome to ECS102 Introduction to programming lab*******
(Your Name)
(Your Roll no.)
(Your Google classroom lab Id eg. A1)
```

Here's a list of commonly used C data types and their format specifiers.

Data Type	Format Specifier
`int`	`%d`
`char`	`%c`
`float`	`%f`
`double`	`%lf`
`short int`	`%hd`
`unsigned int`	`%u`
`long int`	`%li`
`long long int`	`%lli`
`unsigned long int`	`%lu`
`unsigned long long int`	`%llu`
`signed char`	`%c`
`unsigned char`	`%c`
`long double`	`%Lf`

Instruction for Lab task submission :

You need to save the code file with .c extension and upload and turn in .c file in your respective Google classroom lab.