LAB #3

Marks: 1
Due:

PART I

1. Use Visual Studio to create a source file and type in the following code:

```
/*
   program: lab 3
   author:  firstName, lastName
   date:    today's date
   purpose: C program involving variables, calculations and printf()
*/

#include <stdio.h>

int main( ) {
   int radius;
   float area;
   float pi = 3.14159;
   radius = 2;

   area = pi * radius * radius;
   printf("radius: %d area: %f", radius, area);
   getch();
   return 0;
}
```

   Compile and run the program. Save program as **lab3_1.c**.

   Write down the output produced on the screen: _____

   How many digits are used to display variable **area**? _____

2. Modify the program by replacing the original printf statement with the following printf statement:

```
printf("radius: %-15d area: %-15f", radius, area); /*modified statement*/
```

   Compile and run the program. Save program as **lab3_2.c**.

   Write down the output produced on the screen: _____

   How is this output different from the earlier one? _____

3. Modify the program by modifying the printf statement as follows:

```
printf("radius: %d\tarea: %.2f", radius, area);    /* modified statement */
```

Compile and run the program. Save program as **lab3_3.c**.

Write down the output produced on the screen: _____

How many digits are used to display variable **area**? _____

How does '**\t**' change the output? _____

4. Modify the program by modifying the printf statement as follows:

```
printf("radius: %d\narea: %.2f", radius, area);    /* modified statement */
```

Compile and run the program. Save program as **lab3_4.c**.

Write down the output produced on the screen: _____

How does '**\n**' change the output? _____

PART II

5. Use Visual Studio to create a source file and type in the following code:

```
/*
   program: lab 3_part2
   author:  firstName, lastName
   date:    today's date
   purpose: debugging
*/

#include <stdio.h>
int main ()
{
      int a, b, ;
      b = 3;
      float f = 10, c, d;
      d = a * b;
      c = a / (f – b);
      printf (The value of d is %d and value of c is %.2f"\n, d, c)
      getch();
      return 0
 }
```

Compile the program. Are there any errors? _____
If there are compiler errors, make appropriate changes and compile the program again.

Run the program. Are there any errors/unexpected behaviors? _____
If there are runtime errors, make appropriate changes. Compile and run the program again.

Save the program as **lab3_part2.c**.

6. Show your work to instructor
7. Create a zipped folder containing all **.c** programs and a Word document with your answers.
8. Submit the zipped folder electronically on the Blackboard.