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**?

1. 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?

1. 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?

1. 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

1. 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**.

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