# King Fahd University of Petroleum & Minerals Information and Computer Science Department ICS 103: Computer Programming in C (2-3-3) [Term 092]

Homework Assignment #1 [Due Friday March 19 before midnight]

### Instructions

- Create <u>one</u> file in word named hw1\_yourID.doc where yourID is replaced by your student ID. This file should have the solution for all questions except the programming one.
- Create <u>one</u> program file named hw1\_q5.c (the files you save from Dev++ or turbo compiler)
- Zip the 2 files in one file named hw1\_yourID.zip and upload it in WebCT.
- No group work is allowed. The homework solution has to be your own work. Any cheating will lead to severe consequences.

## Question 1: (2 points)

```
Show the output of the following program in the space provided below
it. Each square corresponds to one space
#include <stdio.h>
int main(void) {
    int x=-725;
    double y=16.479;
    printf("%5d%8.2f%f\n",x,y,y);
    printf("%11.4f%d%6.1f\n",y,x,y);
    return 0;
    }
```

**<u>Question 2 : (2 points)</u>**: Evaluate the following expressions by hand:

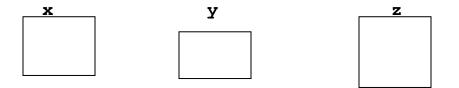
expression	Value
1.5+13.5/3-3%4/6.0	
1689%500%50%4	
-2+3*-7/2+5/3*3	

Question 3: (2 points): Write the following expressions in C language

Mathematical Expression	C Expression
$\frac{x^{\sqrt{y}} - z^2}{x + y}$	
$\sqrt{\sqrt{x} + y}$	
$1 + \frac{x^{ y +x}}{y} - \sqrt{z}$	

#### Question 4: (1 points)

What will be the values of x, y, and z after executing the following statements. int x=7.999; double y=x; double z=9/2;



#### Question 5 (3 points):

Write a program that prompts the user to enter the radius of a circle. The program displays the area and circumference of the circle. It also finds and displays the side of a square having the same area as the circle whose radius is entered by the user.

A sample run of your program is shown below.

The way to display the output must match the sample run.

Note: Define  $\pi$  as a constant with a value of 3.14159

All output values are displayed with 3 digits after decimal point.

(Inactive C:\TCWIN\BIN\EX1.EXE)	⊐×
Enter the radius of a circle > 5.4	
Circle circumference=33.929 Circle area=91.609	
The side of the square having area=91.609 is 9.571	-
	• //