ESC101: Fundamentals of Computing(Minor Quiz 1)

19th August, 2014

Total Number of Pages: 4   Total Points 17

Instructions

1. Read these instructions carefully.

2. Write you name, section and roll number on all the pages of the answer book.

3. Write the answers cleanly in the space provided. There is space left on the back of the answer book for rough work.

4. Do not exchange question books or change the seat after obtaining question paper.

5. Using pens (blue/black ink) and not pencils. Do not use red pens for answering.

6. Even if no answers are written, the answer book has to be returned back with name and roll number written.

Helpful hints

1. The questions are *not* arranged according to the increasing order of difficulty. Do a quick first round where you answer the easy ones and leave the difficult ones of the subsequent rounds.

2. For fill in the blanks type of questions, read the comments in the code. They usually have helpful remarks.

Question	Points	Score
1	7	
2	10	
Total:	17	

Question 1. (7 points) For each of the program snippets below, what is the value printed by **printf**?

(If the snippet contains error, say **Error**).

No.	Snippet	Answer
1.	`printf("%0.2f", 3.14*10*10);`	
2.	`printf("%d", 14%(35/10));`	
3.	`printf("%0.2f", 4.4*1*1/4);`	
4.	`printf("%c", '7' + 5 - '4');`	
5.	`printf("%d", (1 < 1) < (0 < 0));`	

6.	`int x;`
	`x = -5 || -6;`
	`printf("%d", 0 >= x);`	

7.	`int num = 'z' - 'a';`
	`char ch = 25;`
	`printf("%d", num == ch);`	

Question 2. (10 points) The following (*incomplete*) code computes the roots of a quadriatic equation $ax^2 + bx + c$, given **integer coefficients** a, b and c. Assume that the inputs are such that (i) a is never 0 ($a \neq 0$), (ii) $b^2 - 4ac \geq 0$.

Complete the code so that it does the required task correctly.

```c
#include <stdio.h>
#include <math.h>
int main(){
   int a, b, c;

   _____ r1, r2, D;

   scanf("_____",&a);

   scanf("_____",&b);

   scanf("_____",&c);

   D   = sqrt(_____ - _____   );  //  D = √(b² - 4ac)

   r1 = (-b + D)/_____;

   r2 = (-b - D)/_____;

   printf("_____", r1, r2);

   return 0;
}
```

$D = \sqrt{b^2 - 4ac}$

ROUGH WORK