

PRELAB #5 - CSE 1310

Objectives:

The purpose of this PRELAB is to help you:

- Simple design concepts, Basic C, Formalized Notation,
- Data types, Arithmetic Operations and Input/Output.

A. Fill in the blank:

- 1) A character variable can store a maximum of _____ characters at a time.
- 2) The placeholders in the format string must correspond to the _____ and _____ of the variables in the input list.
- 3) The output after executing the following printf statement:
printf("She sells \n\t sea shells \n\t\t on the sea shore.\n");
will be _____.
- 4) For $x=3.5555$, after the execution of the statement `printf("%6.3f, %3.3f\n",x,x)` the output will be(For clarity, use symbol \$ to represent a blank space)_____.
- 5) The number of logical operators in C are _____.

B. Consider the following declarations:

int a;

double b;

Based on these declarations, find out what the resulting values will be after the following operations:

- a) $a = 5/2$; result:
- b) $a = 5.0/2.0$; result:
- c) $b = 5/2$; result:
- d) $b = 2 \% 5$; result:
- e) $a = 2/5$; result:
- f) $b = 2/5$; result:
- g) $a = 2 \% 5$; result:

C) What is the result of a logical expression (fill the table)?

A	B	A&&B	A B	!A	!B
True	True				
True	False				
False	True				
False	False				

D) True or False:

- 1)_____ An 'if' statement cannot be nested within another 'if' statement.
- 2)_____ Operations between an 'integer' and a 'real' number always yield a 'real' result.
- 4)_____ If a double value is assigned to an 'int' variable, the fractional part is lost.
- 5)_____ `main(){ }` is a complete and correct C program.

E) Short answers:

1) Write C statement to carry out the following step.

Store the absolute difference of x and y in y, where the absolute difference is (x-y) or (y-x), whichever is positive.

2).What value is assigned to the type int variable ans in this statement if value of p is 100 and q is 50?

```
ans = ( p > 95 ) + ( q < 95 ) ;
```

3) Point out the errors, if any, in the following C statements:

a. $3.14 * r * r = \text{area};$

b. `int = 314562.150;`

c. `x+2=0;`

d. `m_inst = rate of interest * amount in $;`

4) Given $x = 15.0$ and $y = 25.0$, what are the values of the following conditions?

a. $x != y$

b. $x < x$

c. $x >= y - x$

d. $x == y + x - y$

F) What do these statements display?

a. `if(12<12)`

```
    printf("less");
```

```
else
```

```
    printf("not less");
```

b. `var1=25.12;`

```
var2=15.00;
```

```
if(var1<=var2)
```

```
    printf("less or equal");
```

```
else
```

```
    printf("greater than");
```