COMMA OPERATORS!!!

PART I I

Guys,
I want to tell you that I made some “c++ crime” in the earlier worksheet!! Really!! Yeah, I am talking about the 3rd Q…… I don’t know how many of you found out after trying it on the computer or without it, but I am sure you will get a hell lot of errors if you try the program on the computer (try it, those who didn’t) !!

And by now you should have understood you should never believe me, and think I am always right!! Believe in yourself and you will surely come up, that’s what I think.

OK, so… let me give the solutions for the programs with the reason and simultaneously teach you about comma operators and give the reason why the 3rd Q is wrong.

OUTPUT PROGRAMS

1)
```
int a=1;
a++,++a,a--;
cout<<a;
```

Output:-
2

Now I will tell you about what a comma operator does. Basically when you insert comma operators between two or more statements, due to the comma operators, the statements get executed from left to right.

So when you execute, a++,++a,a--; which contains 3 statements, from left to right, you will get the final value of ‘a’ as 2.

2) int a=1,b;

```
b=--a,++a,a+=10,a*=1;
c=(a=2,a*=2,a/=2,a++);
cout<<b<<"\n"<<c;
```

Output:-

0

2

Comment:-

Now I will tell you something more!!

As I said earlier, the statements get executed from left to right when we insert comma operators in between them. But now, in this Q, the statements with comma operators are equated to ‘b’ and ‘c’, that means these statements with comma operators between them, all together have a definite result which will go to ‘b’ and ‘c’. That is, –-a,++a,a+10,a*=1 ,has a value which gets stored in ‘b’ , so now I am going to tell you what will be the result of a series of statements with comma operators between

them, it's simple, the result is the right most statement's result .But, you need to be careful now, don't say the value of 'b' is 11 after executing the statements and giving 'b' the right most statement's result, which is wrong ,because you need to remember that the comma operator gets the least preference so –a is not a statement instead b=--a is a statement, I mean the statements are
(b=--a),++a,a+=10,a*=1;

But in the next line if you see, the parenthesis gets the first preference and inside the parenthesis there are a series of statements which have comma operators between them, now you can execute these statements from left to right and the value of 'c' will be the right most statement's result.

3) int a=10;

```
cout<<a*=12,a/=2,a+=10,a%2<<"\n"
      <<(a*=12),a/=2,a+=10,a%2<<"\n"     //DUMB??!!
      << (a*=12,(a/=2)),a+=10,a%2<<"\n" //very DUMB ??!!
      << (a*=12,a/=2,a+=10),a%2<<"\n" // PHOOSH !!
      << (a*=12,a/=2,a+=10,a%2);    // DAMN !
```

Comment:-
So… for this Q, I am going to explain, why is the above code wrong… first let me tell you that the preference for the comma operator is the least, in fact this is a very

important point to remember, so if you see the above statements, in the 1st one, cout<<a*=12,……; is absolutely wrong as it is the same as (cout<<a)*=12……; as the operator "<<" is preferred more than " *= " which is a type of assignment operator…… so it is purely wrong!!

The other statements are wrong due to the same reason.

And the answers for the Qs in the comments is the same and the answer is "Yes" … lol… ☺

4) int a;
for(a=0;a<(10,12,5);a++) // DUMB ??!!
cout<<a;

Output:-
01234

Comment:-
a<(10,12,5) means a<5

5) int j;
for(j=0;j<10,1,2;j++) //DUMB ????!!!
cout<<j;

Output:-
01234……

Comment:-
The above loop is an infinite loop!! Yeah, because the operator “<” is preferred more than “,” due to this j<10,1,2 is the same as (j<10),1,2 so the result of the statements is 2 which is a value greater than 0, so it is ““always”” true, since the condition is ““always”” true, the loop becomes an infinite one!! Interesting right? ☺

6) int i;
for(i=1;i<5,i<4,i<3;i++)
cout<<i;

Output:-
12

Comment:-
The condition is i<3 , by now you would have understood why is it so.

7) int i;
for(i=1;((i<5),i<4,i<3);i++)
cout<<i;

Output:-
12

Comment:-
The condition is again i<3!! Though there is a parenthesis for the 3 statements all together and an internal

parenthesis for the 1st one…the execution takes place from left to right and the condition is again i<3.

8) int i;
```
for(i=1;i<5,(i<4,(i<3));i++)
cout<<i;
```

Output:-
12

Comment:-
It is somewhat similar to Q7, the condition is again i<3!!

9) int i;
```
for(i=1;i<5,((i<4),i<3);i++)
cout<<i;
```

Output:-
12

Comment:-
The condition is again i<3 …… I know it's like PHOOSH!!

Oh sorry, I never told you what is ""PHOOSH"", truly speaking there is no such word in the dictionary (I believe !! :P:P) , but I use it to mean "OMG-Oh My God" , "relieved" , and I will extend the list of meanings if I can and let you know for sure !!

Hope you gained some knowledge from this worksheet!! But let me tell you, if I make a worksheet, I assure you that there will Qs which will have comma operators so..... folks be ready!!

Till then,

Have fun. ☺
Karuppiah.