Algorithms for problem solving - C programming MCQs with Answers

1.

Given in the following code segment:

```c
void main(void)
{
  char x='\0';
  char n='N';
  printf("%u"%s\n", &n, &n);
}
```

What will be the result of execution?

[A] ddddd N (where d represents any digit)

[B] 78 N

[C] 78 garbage

[D] compilation error

Answer & Explanation

Answer: Option [D]
2.

Given in the following program:

```c
main()
{
    int x=49;
    for (;x;)
        x--;
    printf("%d\n",x);
}
```

What will be the output of the program?

[A] 49  
[B] 0  
[C] -49  
[D] none of these

Answer & Explanation

**Answer: Option [B]**

For all non-zero values of x the for will execute. x is decremented from 49 to 0. Hence 0 is printed in the screen.

3.

Given in the following program:

```c
main()
{
    int x=3, y=2;
    dp(x/y)
}
```

What will be the output of the program?

[A] prints x/y=1  
[B] prints #e=1.5  
[C] prints #x/y=1  
[D] none of these

Answer & Explanation

**Answer: Option [A]**
4.

In the following code segment:
- int z,x=5,y=-10,a=4,b=2;
- z=x++ - --y* b/a;

What will be the final value of z?

[A] 5 
[B] 6 
[C] 10 
[D] 11 

Answer & Explanation

Answer: Option [C]

The post increment operator is associated with the variable x. So the current variable is considered i.e. x=5.

The pre increment operator is associated with the variable y. So the value of y decreases by 1. That is y=-11.

Multiplication operator and division operator has the same precedence. So the first one is executed first.

So the expression is:

\[
z = 5 - (\frac{-11*2}{4}) \\
= 5 - (\frac{-22}{4}) \\
= 5 - (-5) \\
= 10
\]

5.

Suppose that x is initialized as:
- short int x; /*assume x is 16 bits in size*/

What is maximum number that can be printed using

printf("%d\n",x);

[A] 127 
[B] 128 
[C] 255 
[D] 32767 

Answer & Explanation

Answer: Option [D]
By default short integer is signed. 1 bit is reserved for sign i.e. only 15 bits are available.

So, the largest number will be:

\[2^{15} + 2^{14} + \ldots + 2^0\]

i.e. 32767