**Operators Associativity and Precedence**

1. Use operator associativity, evaluate the following expressions and predict the output

a. x = 34 + 12/4 – 56

b. 12 + 3 - 4 / 2 < 3 + 1

c. (2 + (3 + 2) ) \* 10

d. 34 + 12/4 – 45

A:

a: x = 34 + 12 / 4 - 56 → x = -19

b: 12 + 3 - 4 / 2 < 3 + 1 → false (0)

c: (2 + (3 + 2)) \* 10 → 70

d: 34 + 12 / 4 - 45 → -8 2.

Rewrite the following expressions with improved readability

a. age < 18 && height < 48 || age > 60 && height > 72

b. char name value

c. char $name

A:

a. if ((age < 18 && height < 48) || (age > 60 && height > 72)) { }

b. char name = value;

c. char name\_with\_dollar;

3. Predict the value of a after each statement.

int main(void)

{

int i = 10;

char a = 'd';

a += 10;

a \*= 5;

a /= 4;

a %= 2;

a \*= a + i;

return 0;

}

A: Initial value of a: 100 (ASCII value of 'd')

After a += 10: 110

After a \*= 5: 550

After a /= 4: 137

After a %= 2: 1

After a \*= a + i: 11

Final value of a = 11.

4. Consider a = 12, b = 3, predict the output of the following .

a. (a>100) && (b<10)

A. 0 (false)

b. (a==4) && (b==2)

A.0 (false)

c. (a==11) && (a++)

A.0 (false)

5. Consider a = 10, b = 11, predict the output of the following .

a. (a>10) || (b<10)

A.0 (false)

b. a || 12.12

A. 1 (true)

c. a || b

A. 1 (true)

d. !(a > 5)

A. 0 (false)

6. Consider int age = 10, height = 45, year = 2000; Predict the output of the following.

a. (age < 12 && height < 48) || (age > 65 && height > 72)

b. (year % 4 == 0 && year % 100 != 0 ) || (year % 400 == 0);

A:

a: true (or 1)

b: true (or 1)