Operators Associativity and Precedence Assignment

1. Use operator associativity, evaluate the folowing expressions and predict the output
    a. x = 34 + 12/4 – 56

    Ans: x = 34 + 3 -56

    X = -19

    b. 12 + 3 - 4 / 2 < 3 + 1
    Ans: 12 + 3 – 2 < 3 +1
    13 < 4
    Output = false

    c. (2 + (3 + 2)) * 10
    Ans: (2 +5)*10
    7*10
    70

    d. 34 + 12/4 – 45
    Ans: 34 + 3 -45
    -8

2. Rewrite the following expressions with improved readability
    a. age < 18 && height < 48 || age > 60 && height > 72
    Ans: (age < 18 && height <48) || (age > 60 && height > 72)

    b. char name value

    Ans: char name, value;

    c. char $name

    Ans: char name_with_dollar_sign;

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;
}
```

Ans: a = ‘d’;

‘a’ is initialized with the character ‘d’ (ASCII value 100)

a += 10; // a = 110

a *= 5; //a = 550

a /= 4; // a = 137

a %= 2; //a = 1

a *= a+i; // a =11

4. Consider a = 12, b = 3, predict the output of the following .
    a. (a>100) && (b<10)
       Output: false

    b. (a==4) && (b==2)
       Ans: false

    c. (a==11) && (a++)
       Ans: false

5. Consider a = 10, b = 11, predict the output of the following .
    a. (a>10) || (b<10)
       Ans: false

    b. a || 12.12
       Ans: True

    c. a || b
       Ans: True

    d. !(a > 5)
       Ans: 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)
       Ans: True

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