Task. Solve
$$\log_{1/100} x + \log_{1/100}(x+1) - \log_{1/100}(x-1) = 1/2$$
Solution. First we find restriction to the range of x. We should have that
$$x > 0, \qquad x+1 > 0, \qquad x-1 > 0.$$
That is
$$x > 0, \qquad x > -1, \qquad x > 1$$
and so
$$x > 1.$$

Now use the property of logarithms that
$$\log_a x + \log_a y = \log_a xy, \qquad \log_a x - \log_a y = \log_a \frac{x}{y}.$$

Hence
$$\log_{1/100} x + \log_{1/100}(x+1) - \log_{1/100}(x-1) = 1/2,$$
$$\log_{1/100} \frac{x(x+1)}{x-1} = 1/2,$$
$$\frac{x(x+1)}{x-1} = \left(\frac{1}{100}\right)^{1/2} = \sqrt{\frac{1}{100}} = \frac{1}{10},$$
$$10x(x+1) = x - 1$$
$$10x^2 + 10x - x + 1 = 0$$
$$10x^2 + 9x + 1 = 0$$
$$D = 81 - 4 * 10 = 51$$
$$x_1 = \frac{-9 + \sqrt{51}}{20} < 0 < 1$$
$$x_2 = \frac{-9 - \sqrt{51}}{20} < 0 < 1$$
so both solutions do not belong to the range of x.

Answer. The equation has no solutions.