I need a formula for my collision simulation program. In that I am using vector concept to detect the collision and the path after collision. But I'm not able to trace the path after collision.

If you are simulating the central perfectly elastic collision of two bodies, then according to the law of conservation of momentum we can write $m_1 \cdot \vec{v}_{01} + m_2 \cdot \vec{v}_{02} = m_1 \cdot \vec{v}_1 + m_2 \cdot \vec{v}_2$ (it should be written in scalar form with corresponding signs). According to the law of conservation of energy we can write an equation $\frac{m_1 \cdot v_{01}^2}{2} + \frac{m_2 \cdot v_{02}^2}{2} = \frac{m_1 \cdot v_1^2}{2} + \frac{m_2 \cdot v_2^2}{2}$ (it can be written in scalar form only).

Then, $m_1 \cdot (\vec{v}_{01} - \vec{v}_1) = m_2 \cdot (\vec{v}_2 - \vec{v}_{02}),\ m_1 \cdot (v_{01}^2 - v_1^2) = m_2 \cdot (v_2^2 - v_{02}^2)$

We can omit the vector signs in the first equation when considering two cases:

1) If both bodies are moving in the positive direction before the collision with $v_{01} > v_{02} > 0$, then the law of conservation of momentum in the scalar form will be: $m_1 \cdot (v_{01} - v_1) = m_2 \cdot (v_2 - v_{02})$

Then we can divide the above equations: $\frac{m_1 \cdot (v_{01}^2 - v_1^2)}{m_1 \cdot (v_{01} - v_1)} = \frac{m_2 \cdot (v_2^2 - v_{02}^2)}{m_2 \cdot (v_2 - v_{02})},\ v_{01} + v_1 = v_2 + v_{02}$.

Solution of the obtained system of equations $\begin{cases} m_1 \cdot (v_{01} - v_1) = m_2 \cdot (v_2 - v_{02}) \\ v_{01} + v_1 = v_2 + v_{02} \end{cases}$ will be:

$v_1 = \frac{m_1 - m_2}{m_1 + m_2} \cdot v_{01} + \frac{2m_2}{m_1 + m_2} \cdot v_{02},\ v_2 = \frac{m_2 - m_1}{m_1 + m_2} \cdot v_{02} + \frac{2m_1}{m_1 + m_2} v_{01}$, you can calculate the values of velocities after the collision. If the value is positive, then the body moves in positive direction and vice versa.

2) If the bodies are in the counter movement before the collision, $v_{01} > 0,\ v_{02} < 0$, then the law of conservation of momentum in the scalar form will be: $m_1 \cdot (v_{01} - v_1) = m_2 \cdot (v_2 + v_{02})$,

$\frac{m_1 \cdot (v_{01}^2 - v_1^2)}{m_1 \cdot (v_{01} - v_1)} = \frac{m_2 \cdot (v_2^2 - v_{02}^2)}{m_2 \cdot (v_2 + v_{02})},\ v_{01} + v_1 = v_2 - v_{02}$, $\begin{cases} m_1 \cdot (v_{01} - v_1) = m_2 \cdot (v_2 + v_{02}) \\ v_{01} + v_1 = v_2 - v_{02} \end{cases}$

$v_1 = \frac{m_1 - m_2}{m_1 + m_2} \cdot v_{01} - \frac{2m_2}{m_1 + m_2} \cdot v_{02},\ v_2 = \frac{m_1 - m_2}{m_1 + m_2} \cdot v_{02} + \frac{2m_1}{m_1 + m_2} v_{01}$, you can calculate the values of velocities after the collision. If the value is positive, then the body moves in positive direction and vice versa.