Example 6

Q : current $100000   house $ 90000

person utility function

$$u(x) = \sqrt{\frac{x}{100000}}$$

Solution   2 lottery

L_1 Buy insurance $\xrightarrow{1}$ ($100000 - x$)

L_2 Don't Buy ~

$$\begin{array}{c} 0.001 \longrightarrow \$10000 \\ 0.999 \quad \$100000 \end{array}$$

choose L_1 : $u(L_1) > u(L_2)$

$$\sqrt{10000 - x} > 0.001\sqrt{10000} + 0.999\sqrt{100000}$$

$$x < 136.71$$