

$$\cdot f(x) = \underline{-\log x - \log y}$$

$$\cdot g(x) = \underline{x + y - 1 = 0}$$

$$\cdot \frac{\partial f}{\partial x} + \frac{\partial}{\partial x} \lambda \cdot g(x) = -\frac{1}{x} + \frac{\partial}{\partial x} \lambda x + \lambda y - \lambda$$

$$= \underline{-\frac{1}{x} + \lambda = 0}$$

$$\cdot \frac{\partial f}{\partial y} + \frac{\partial}{\partial y} \lambda \cdot g(x) = \underline{-\frac{1}{y} + \lambda = 0}$$

$$\cdot \frac{\partial f}{\partial \lambda} + \frac{\partial}{\partial \lambda} \lambda \cdot g(x) = \underline{x + y - 1 = 0}$$

$$\cdot \lambda = \frac{1}{x}, \quad \lambda = \frac{1}{y}, \quad x + y = 1$$

$$\cdot \lambda = \frac{1}{x}, \quad \lambda = \frac{1}{y}, \quad y = -x + 1$$

$$\cdot \frac{1}{x} = \frac{1}{y}, \quad y = -x + 1$$

$$\bullet \quad \frac{1}{x} = \frac{1}{-x+1}$$

$$\bullet \quad x = -x + 1$$

$$\Rightarrow 2x = 1$$

$$x = \frac{1}{2}, \quad y = \frac{1}{2}, \quad \lambda = 2$$