Name:

Consider the following problem:

$$\begin{aligned} \underset{x \in \mathbb{R}^n}{\text{minimize}} \quad & -\sum_{i=1}^{n} \log(x_i + \alpha_i) \\ \text{subject to} \quad & x \geq 0, \;\; x_1 + x_2 + \ldots + x_n = 1 \end{aligned}$$

Is this problem convex? Regardless, derive the KKT conditions and find one solution that satisfies these conditions for this problem.