

The background of the slide is a faded image of the Jiaotong University gate. The gate is a large, white, curved structure with the university's name in English, "JIAOTONG UNIVERSITY", on the right side and in Chinese, "交通大学", on the left side. The gate is flanked by trees and a building with a red roof. A large, dark purple rectangular box is superimposed over the center of the image, containing the title "作业3" in yellow text.

## 作业3

2021-2022学年第2学期

## 作业3

1. 写出以下线性规划问题的对偶形式:

$$\begin{cases} \max & x_1 \\ \text{s.t.} & -4x_1 + 3x_3 \geq 0 \\ & 2x_2 + 5x_3 \leq 0 \\ & 6x_1 + 7x_2 = 0 \\ & x_2 \geq 0, x_3 \geq 0. \end{cases}$$

2. 用对偶单纯形法求以下线性规划问题的最优解:

$$\begin{cases} \min & 3x_1 + 2x_2 + 4x_3 \\ \text{s.t.} & 2x_1 - x_2 \leq 5 \\ & 2x_2 - x_3 \geq 10 \\ & x_1 \geq 0, x_2 \geq 0, x_3 \geq 0. \end{cases}$$