ST 705 Linear models and variance components
Homework problem set 6

February 13, 2024

1. Monahan exercise 2.11.
2. Monahan exercise 2.12.
3. Monahan exercise 2.14.
4. Monahan exercise 2.22.
5. Monahan exercise 2.23.
6. Monahan exercise 2.24.
7. Let $X \in \mathbb{R}^{n \times p}$ and $u \in \text{col}(X)$. Show that

$$\{\beta : X\beta = u\} = \{\beta : \beta = X^g u + (I_p - X^g X)z \text{ for some } z \in \mathbb{R}^p\}.$$