# Homework 6, Biostatistical Methods

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## Problem 1 (15p)

### Problem 1.1.

The correlation matrix refers to the array of numbers where $r_{jk}$ is the pearson correlation coefficient between variables $x_j$ and $x_j$ such that

$$\mathbf{R} = \begin{pmatrix} 1 & r_{12} & r_{13} & \cdots & r_{1p} \\ r_{21} & 1 & r_{23} & \cdots & r_{2p} \\ r_{31} & r_{32} & 1 & \cdots & r_{3p} \\ \vdots & \vdots & \vdots & \ddots & \vdots \\ r_{p1} & r_{p2} & r_{p3} & \cdots & 1 \end{pmatrix}$$

### Problem 1.2.

### Problem 1.3.

### Problem 1.4.

### Problem 1.5.

## Problem 2 (15p)

### Problem 2.1.

### Problem 2.1.a.

### Problem 2.1.b.

### Problem 2.2.

### Problem 2.3.

### Problem 2.3.a.

### Problem 2.3.b.