

# Correlations & associations

## Assignment 3

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### Table of contents

0.1 Assignment 3 Questions . . . . .	1
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Submit a R script wherein you provide answers to Questions 1–8 by no later than 8:00 tomorrow. Label the script as follows: `BCB743_<Name>_<Surname>_Assignment_3.R`, e.g. `BCB743_AJ_Smit_Assignment_3.R`.

Refer to the [Correlations & Associations lecture material](#) to see the questions in context.

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### 0.1 Assignment 3 Questions

**Question 1:** Create a plot of pairwise correlations.

**Question 2:** Name to two top positive and two top negative *statistically-significant* correlations.

**Question 3:** For each, discuss the mechanism behind the relationships. Why do these relationships exist?

**Question 4:** Why do we need to transpose the data?

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**Question 5:** What are the properties of a transposed species table?

**Question 6:** What are the properties of an association matrix? How do these properties differ from that of a i) species dissimilarity matrix and from a ii) correlation matrix?

**Question 7:** What is the difference between `spp_assoc1` and `spp_assoc2`? Is the information contained in each markedly different from the other?

**Question 8:** Explain the kind of insight we are able to glean from a species association matrix.