Computational Statistics **Name:** _____
STA 4102 Spring 2019
Homework 9
Due 4/9/2019

Notification of the homework:

1. Please follow the homework submission guideline.
2. Please bring hard copy of your homework to the class and submit it to CANVAS in pdf or word format before the deadline.
3. Please do not "COPY" homework from other students. Be aware both students who "SHARE" and "COPY" will get 0 score with additional penalty points 10% for this homework and will be reported to school, see honor code in your syllabus.
4. Please attach this page on the top with your report and print your name clearly (only for hard copy report).

Grade Table (for teacher use only)

Question	Points	Score
1	3	
2	3	
Total:	6	

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1. (3 points) The data *meteo* (R package "HSAUR2") gives measurements on five meteorological variables over an 11-year period (taken from Everitt and Dunn, 2001). The variables are
   year: the corresponding year,
   rainNovDec: rainfall in November and December (mm),
   temp: average July temperature,
   rainJuly: rainfall in July (mm),
   radiation: radiation in July (curies), and
   yield: average harvest yield (quintals per hectare).
   Carry out a principal components analysis of both the covariance matrix and the correlation matrix of the data and compare the results. Which set of components leads to the most meaningful interpretation? Explain your finding.

2. (3 points) A new NBA team funded by FAU is going to recruit talents from other existing teams. Now they target on 9 players: Jeremy Lin, David Lee, Tim Duncan, LeBron James, Kevin Garnett, Dwight Howard, Kevin Durant, James Harden and Kobe Bryant. The previous statistician collected playing statistics in 2013 such as G, GS, MPG, etc... from these nine NBA players (use the data set *2013_nba_no_player_name.txt*), he recorded all 15 game statistics from those players during 2013 but he forgot to mark all the players' names. So he got fired immediately, then they hired you as a new statistician to analyze the data without players' names. They believe you are smart enough doing anything, the first thing they will expect from you is to put all these 9 players' names back to the current data. Can you do that? What is the limitation of the method you use here? Show your result and explain your finding.