Santana Rodriguez
QingQing Yang
Advanced Psych Stats
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Data Assignment 4

1. Create three lists (x, y and z) from randomly generated numbers from a uniform distribution. (Hint – see "runif" and "round") in the cookbook.)
   x = c(82,67,15,63,24,82,60,78,19,75)
   y = c(67,58,49,60,65,75,22,60,44,52)
   z = c(3,54,12,34,18,7,16,22,91,19)
   a. cor(x,y) = 0.3243665, cor(x,z) = -0.4013555, cor(y,z) = -0.2593245
   b. **x y z**
      1 82 67 3
      2 67 58 54
      3 15 49 12
      4 63 60 34
      5 24 65 18
      6 82 75 7
      7 60 22 16
      8 78 60 22
      9 19 44 91
      10 75 52 19
   c. df1 = data.frame(x,y,z)
      apply(df1,2,mean)
      x y z
      56.5 55.2 27.6
   d. cor(df1$x,df1$y) = 0.3243665
2. Download and install two R packages – "ppcor" and "psych".
   a. vec1 = (df1$x)
      > describe(vec1)

	vars	n	mean	sd	median	trimmed	mad	min	max	range	skew	kurtosis	se
X1	1	10	56.5	26.78	65	58.5	15	15	82	67	-.56	-1.59	8.47

3. Run the partial correlation on your data frame using
   a. pcor(df1)

	x	y	z
x	1.0000000	0.2490255	-0.3472518
y	0.2490255	1.0000000	-0.1490515

z -0.3472518 -0.1490515 1.0000000

b. partial.r(df1)

	x	y	z
x	1.0000000	0.2490255	-0.3472518
y	0.2490255	1.0000000	- 0.1490515
z	-0.3472518	-0.1490515	1.0000000

4. Create a scatter plot of x and y

>plot(x,y,main = "correlation",xlab = "x",ylab = "y")+points(x,z,col="pink")+points(y,z,col= "green", pch=02,type = "b")