



School of Computing Science and Engineering

LAB - 8 Exercises

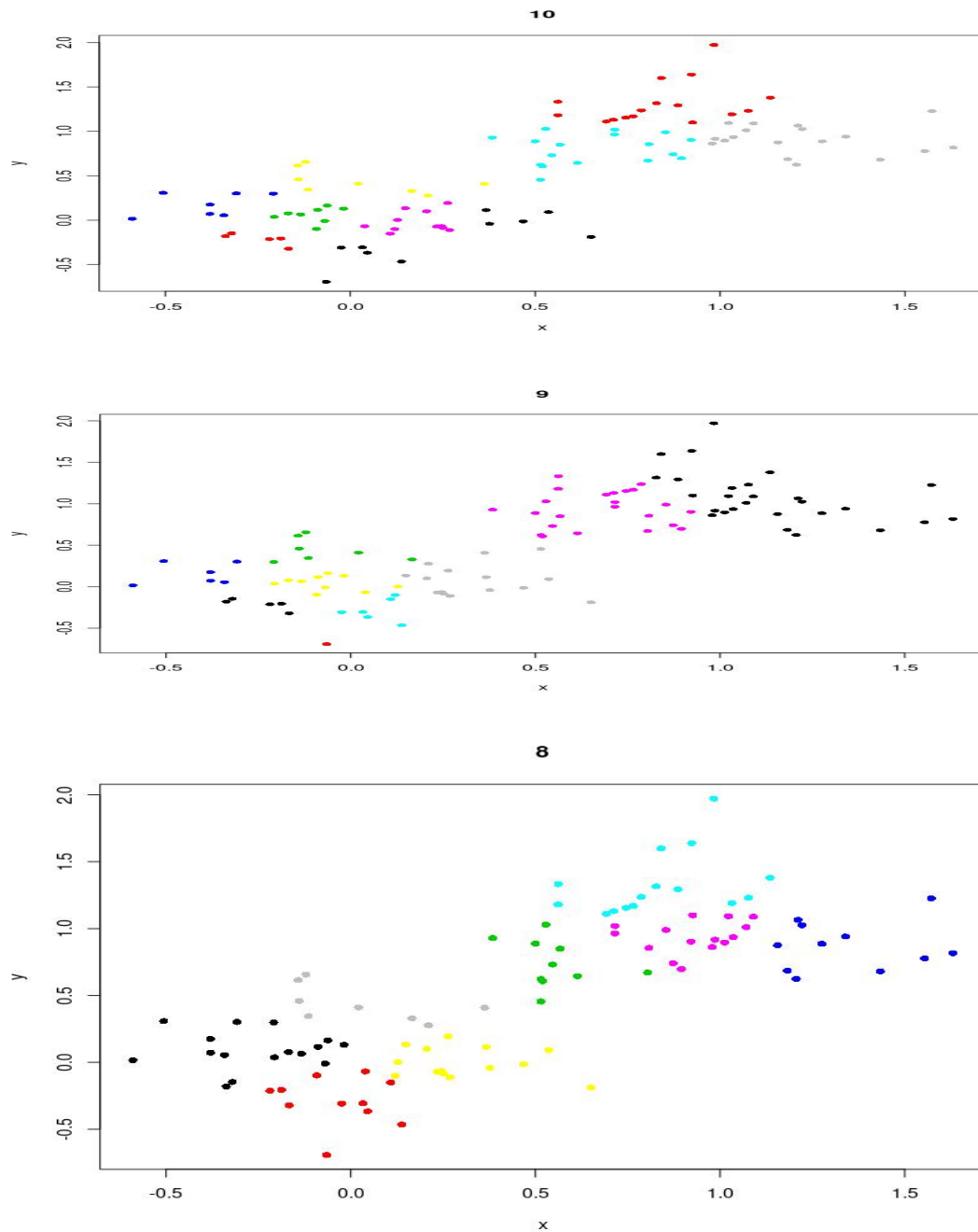
Course Code	:	CSE3020 - Data Visualization Lab	Date	:	09/02/2018
Lab Experiment	:	K-Means Clustering using plots and ggplot in R	Slots	:	L19+L20
Instructors	:	Prof. Ramesh Ragala and Dr. Maheswari N			

The following R-Code is used for K-Means Clustering for a dataset(which have been generated through program).

```
# Dataset generation
x <- rbind(matrix(rnorm(100, sd = 0.3), ncol = 2),
           matrix(rnorm(100, mean = 1, sd = 0.3), ncol = 2))
#column names given to dataset
colnames(x) <- c("x", "y")
#displaying dataset
View(x)
# applying k-means clustering on dataset and result stored in cl
(cl <- kmeans(x, 2))
# clustering diagrams using plot
plot(x, col = cl$cluster)
#highlighting centroids in cluster visualization
points(cl$centers, col = 1:2, pch = 8, cex = 2)
```

Practice Problems:

1. Please enhance the above code (with same dataset) in such a way that, it has to visualize 10 different clusters in 10 iterations as shown below (use plot in R)



2. Please solve the above problem using ggplot in R for better visualization. The sample output as follows

