K-Nearest Neighbors (KNN)

STATS 140XP Teaching Video

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Explore the GLOBE

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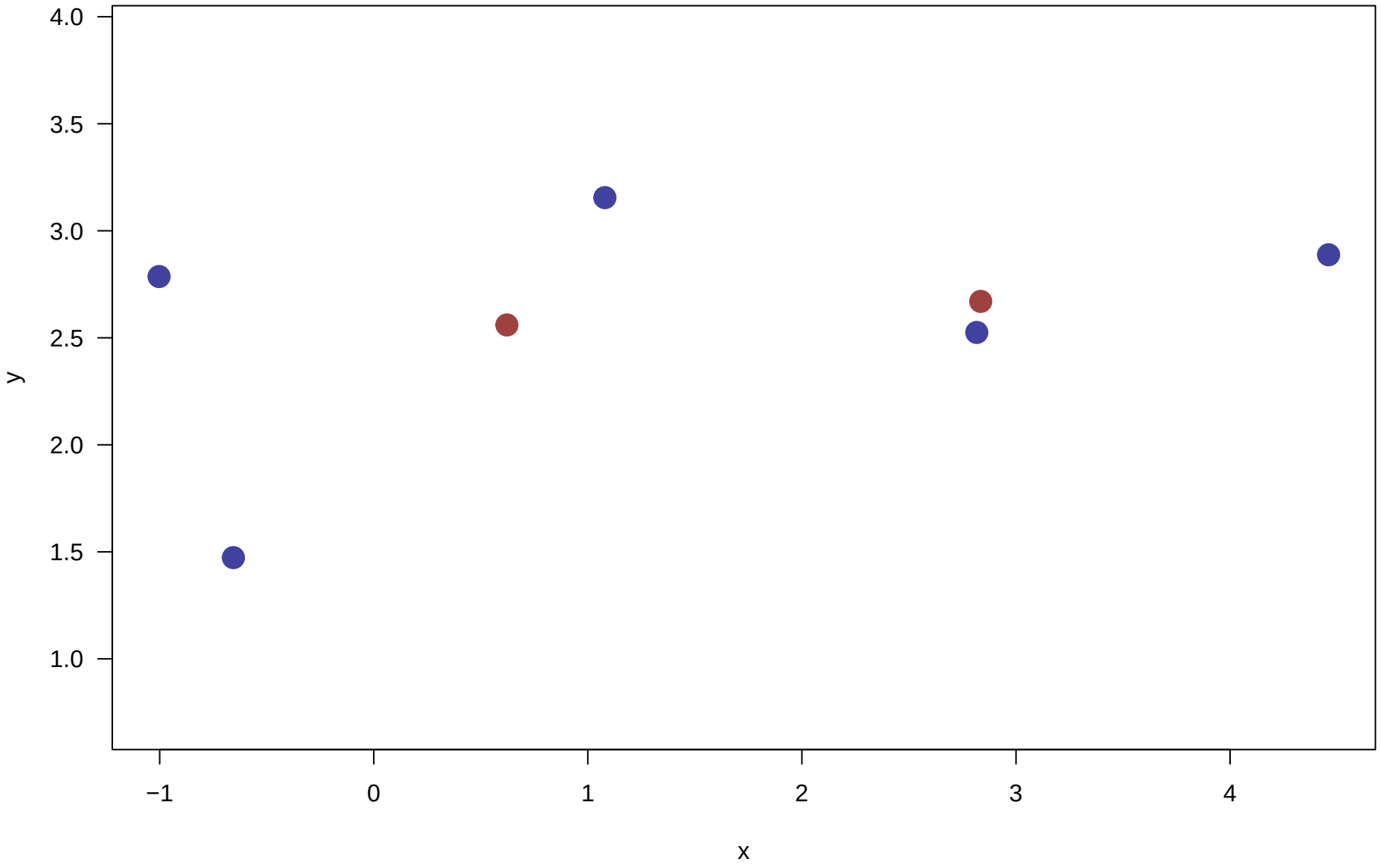
What is KNN?

- KNN: K-nearest neighbors
- Classification method to predict a certain response
- Numeric predictor variables (distance)

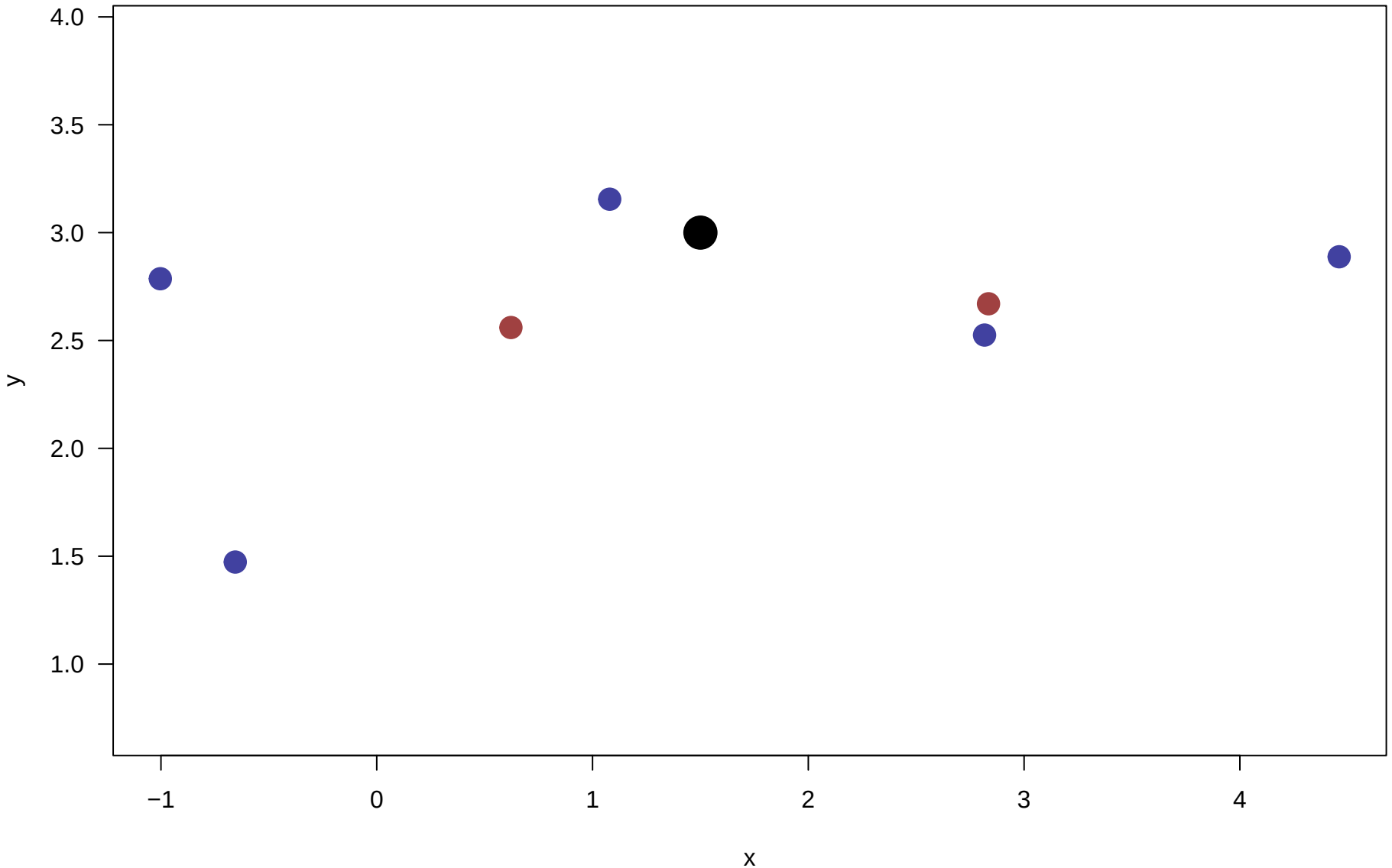
The Algorithm

- Standardize variables to be on the same scale
- Calculate the k nearest observations by distance
- Find the response values of those observations
- Assign the new point's response value to the most common of the k neighbors

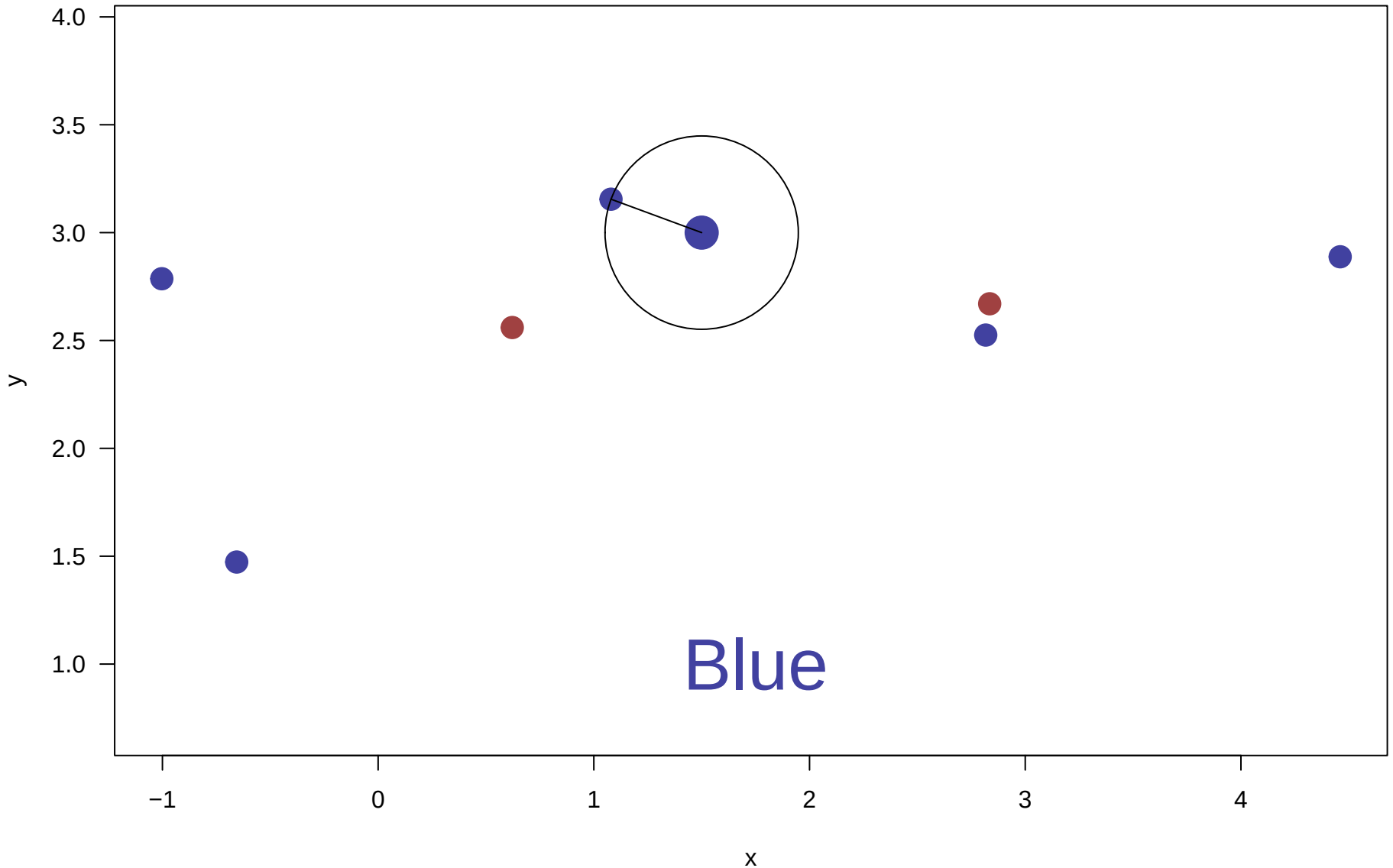
An Example



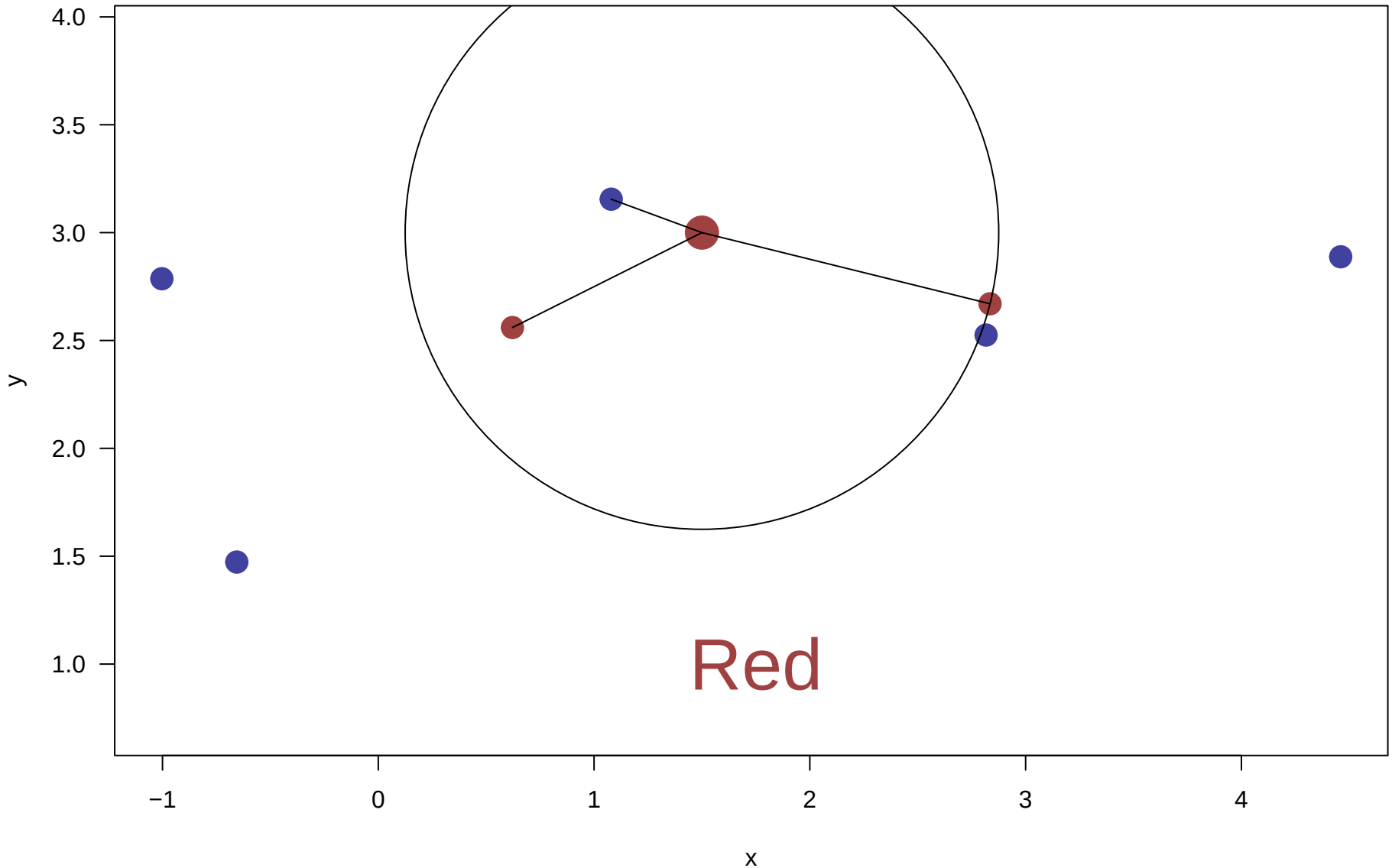
A New Observation



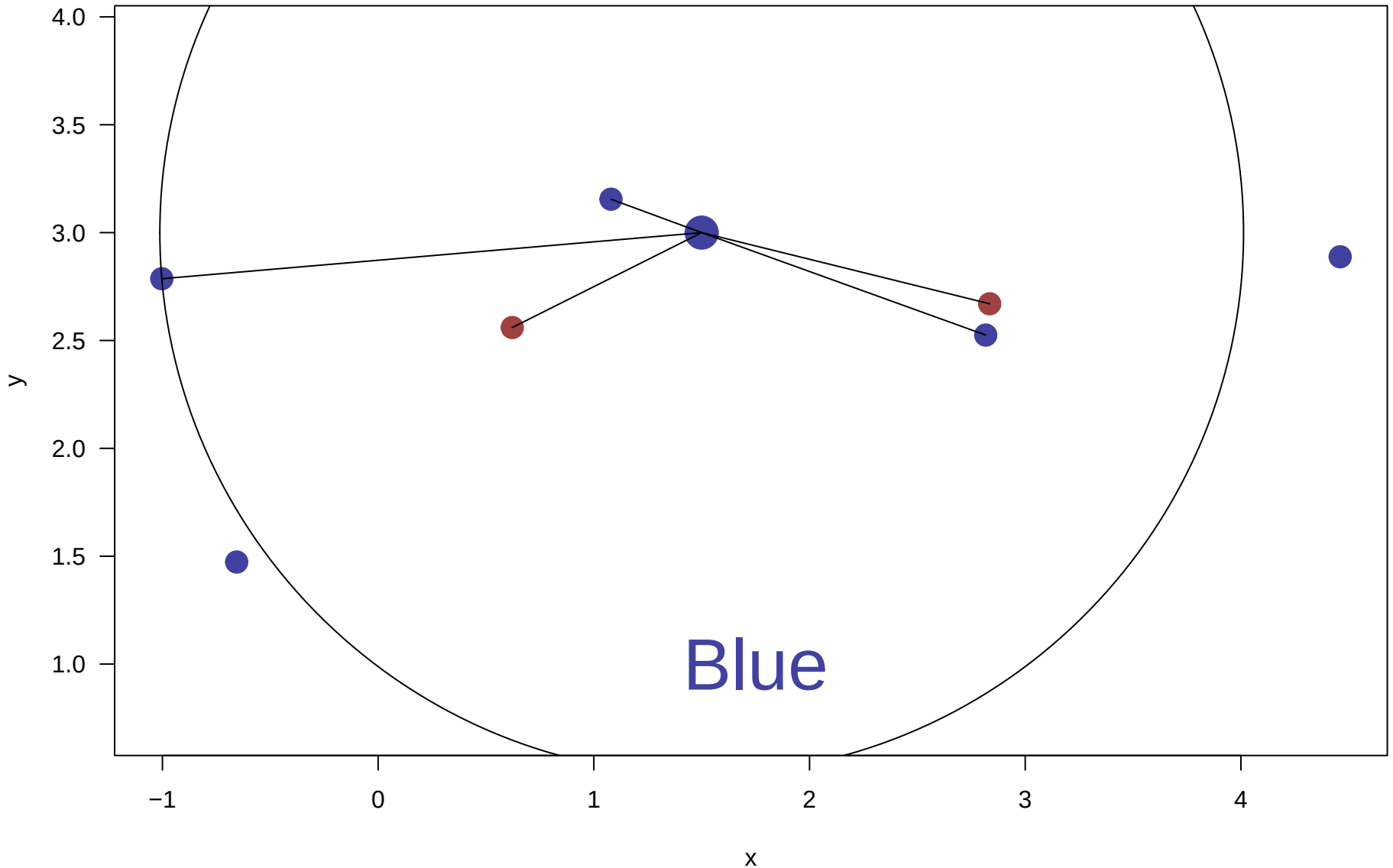
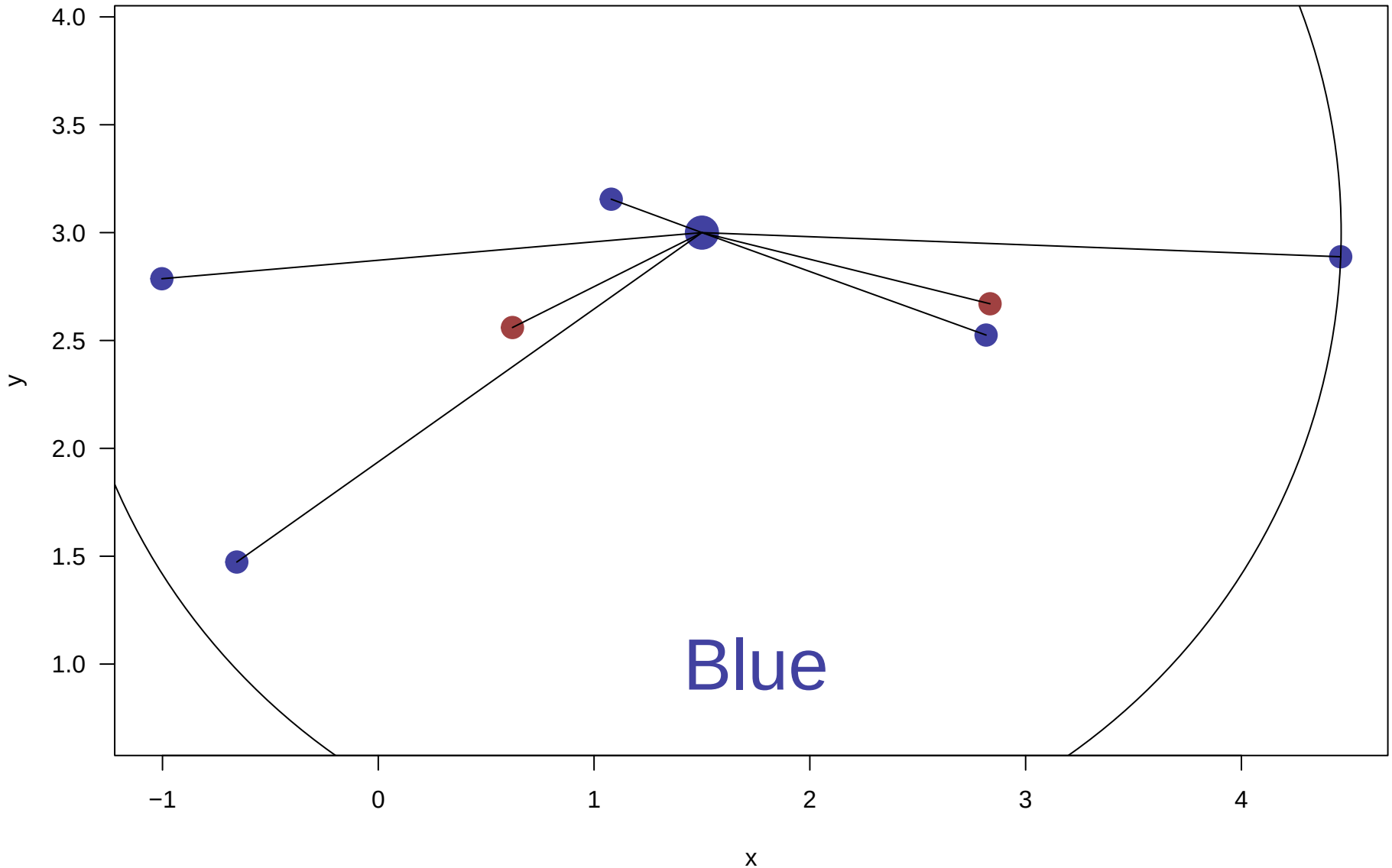
$k = 1$



$k = 3$



$k = 5$



$k = 7$