Graphical Methods
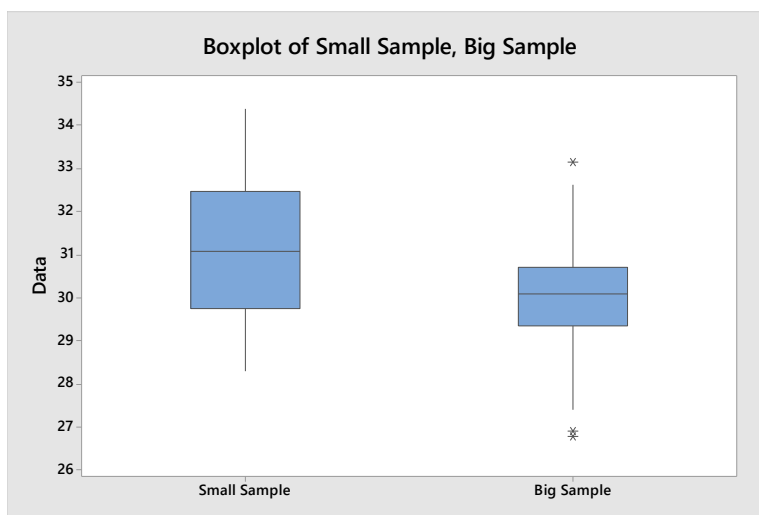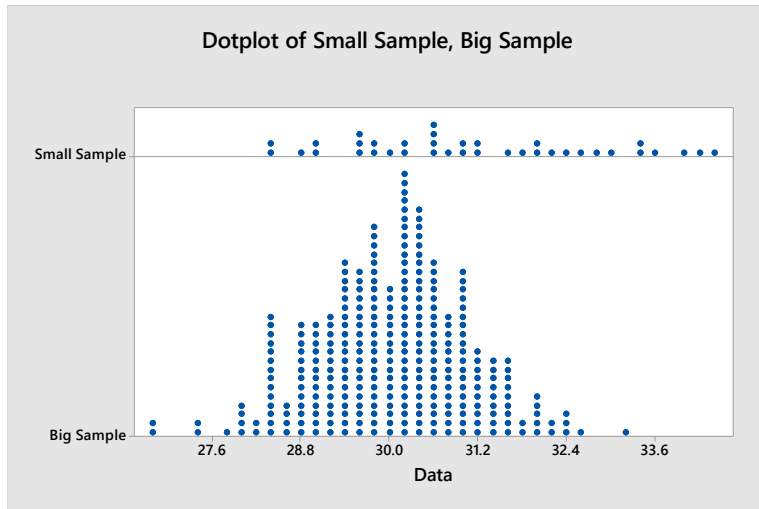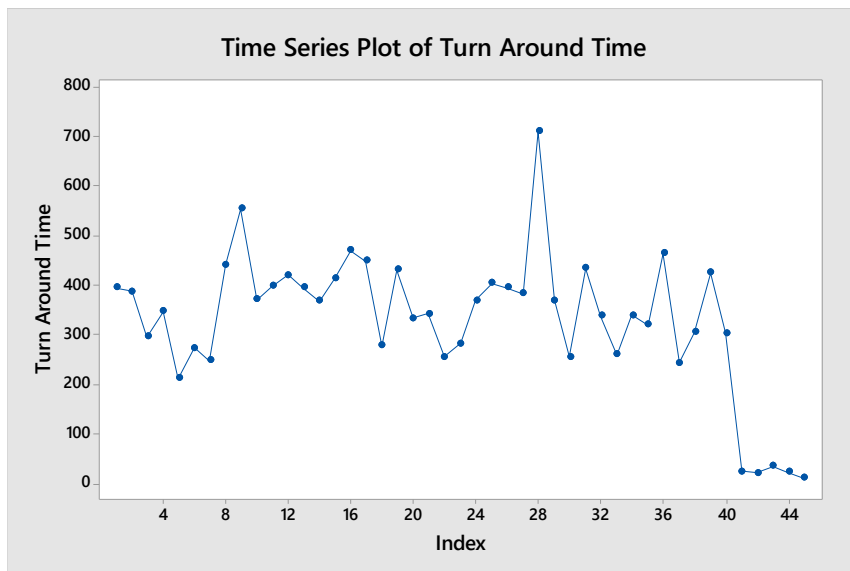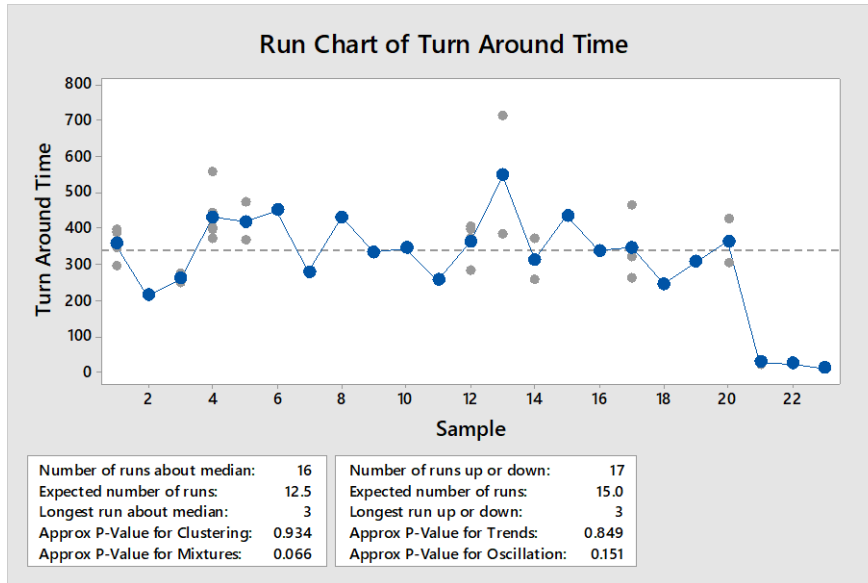
1. Practice the relevant graph with the data provided. (File: Graphical Data_PracticeFile.xls)

Dotplot of Small Sample, Big Sample

Boxplot of Small Sample, Big Sample

Dotplot of Small Sample

Run Chart of Turn Around Time

Number of runs about median:	16	Number of runs up or down:	17
Expected number of runs:	12.5	Expected number of runs:	15.0
Longest run about median:	3	Longest run up or down:	3
Approx P-Value for Clustering:	0.934	Approx P-Value for Trends:	0.849
Approx P-Value for Mixtures:	0.066	Approx P-Value for Oscillation:	0.151

Time Series Plot of Turn Around Time

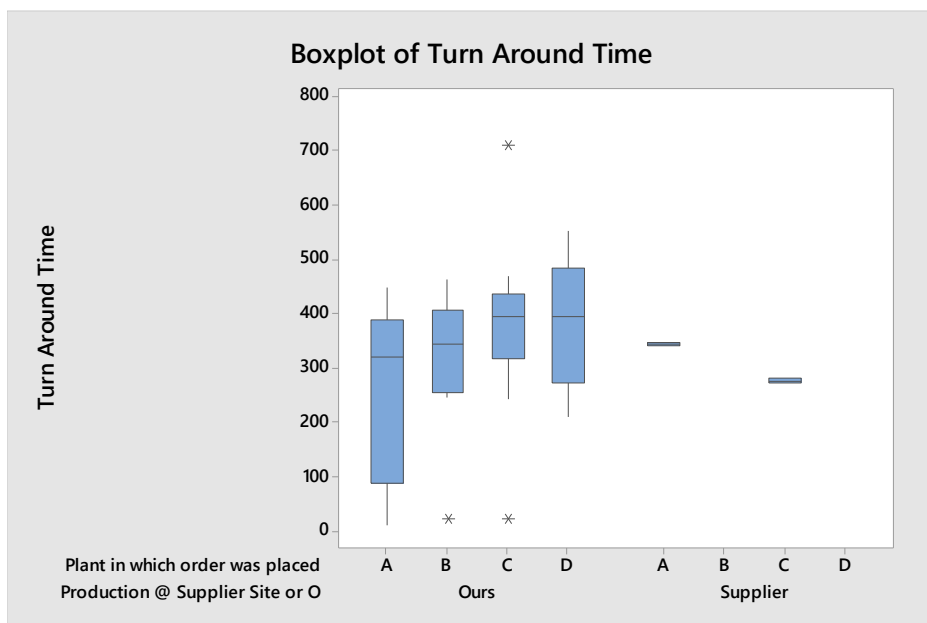## Stem-and-Leaf Display: Turn Around Time

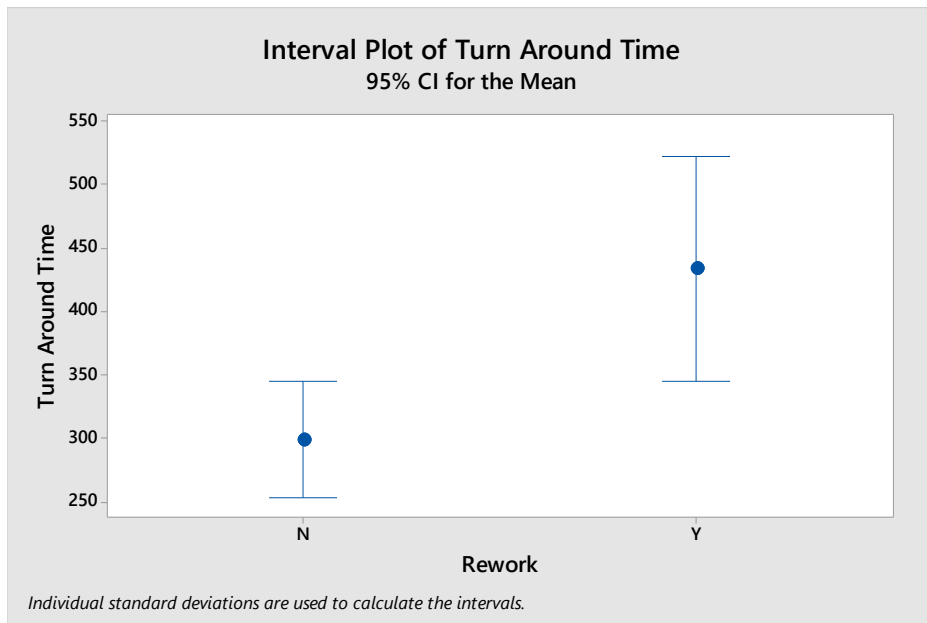### Stem-and-leaf of Turn Around Time   N = 45

```
  5    0   12223
  5    0
  5    1
  5    1
  8    2   144
 15    2   5567789
 (8)   3   00233344
 22    3   6667889999
 12    4   0122334
  5    4   567
  2    5
  2    5   5
  1    6
  1    6
  1    7   1
```
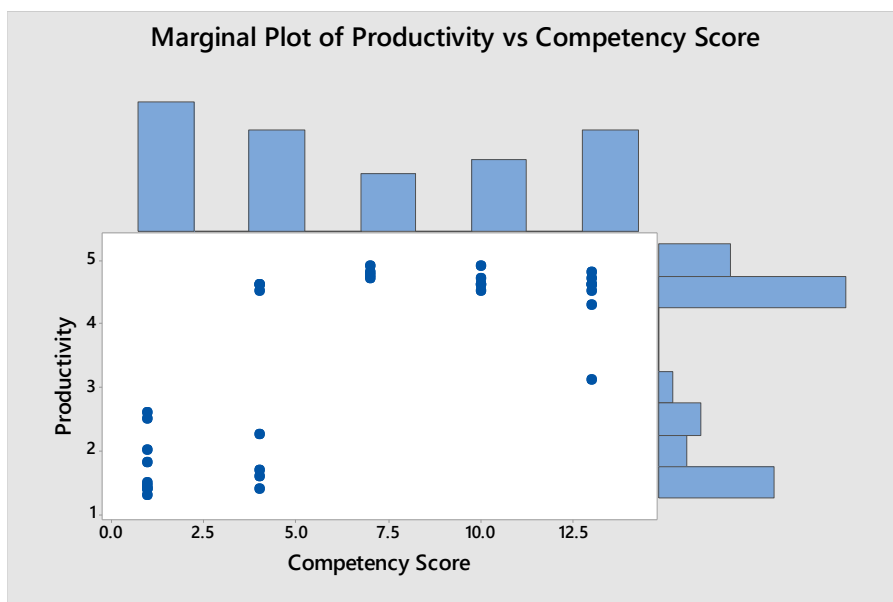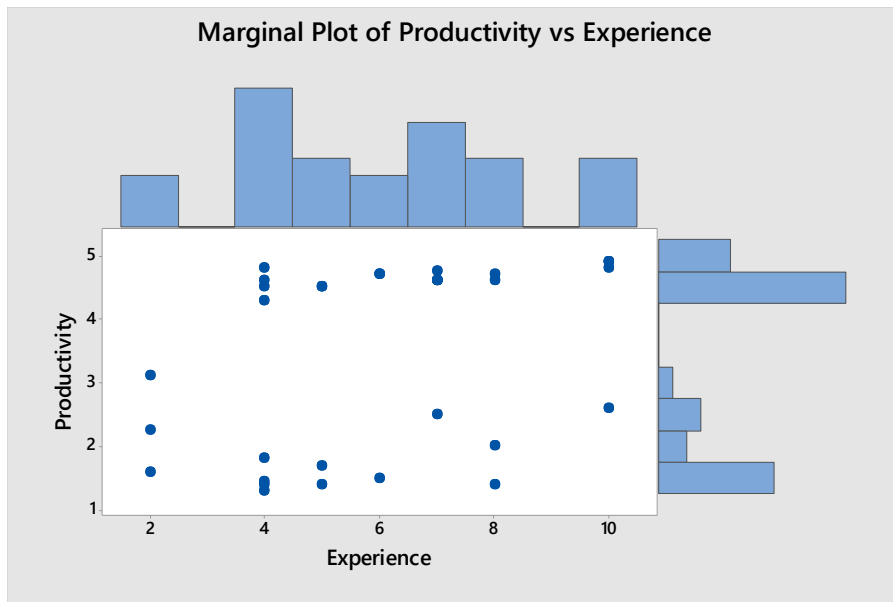
Leaf Unit = 10

Interval Plot of Turn Around Time
95% CI for the Mean

Individual standard deviations are used to calculate the intervals.

Boxplot of Turn Around Time

Marginal Plot of Productivity vs Experience

Marginal Plot of Productivity vs Competency Score

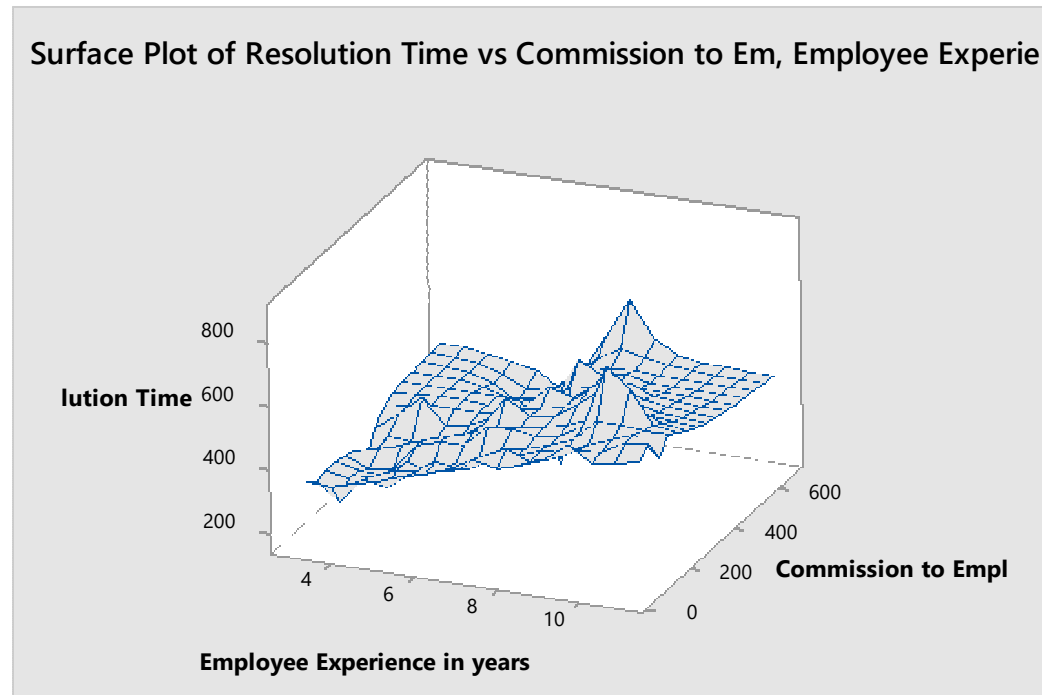2. The 'Resolution Time' for customer complaints are measured along with the 'Commission to Employees' who resolve the complaint and 'Employee Experience in years'. You have to find out the relationship between the three and find out if 'Resolution Time' is influenced by Commission or Experience?


Surface Plot of Resolution Time vs Commission to Em, Employee Experie

3. In the manufacturing factory, you need to identify the factors impacting line stoppages (Conveyor line is stopped at times due to various reasons} using multi-vary chart (File: Graphical Data_PracticeFile.xls)

Multi-Vari Chart for Line Stoppage by Team - Time of Day

Panel variables: Time of Day, Day
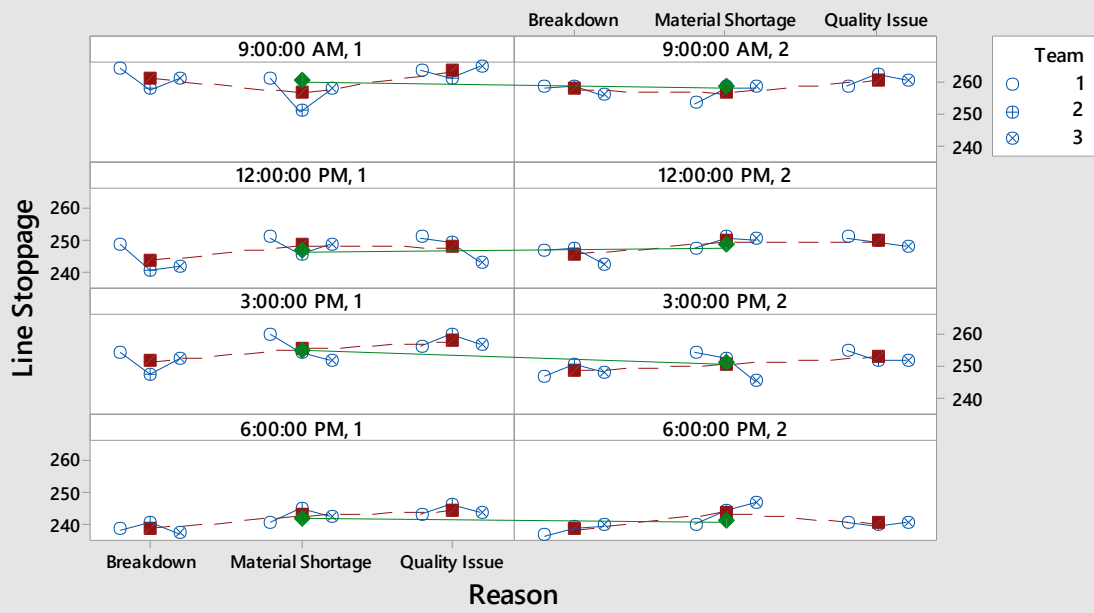
Eliminate Time of Day and replot

Multi-Vari Chart for Line Stoppage by Team - Day

Panel variable: Day
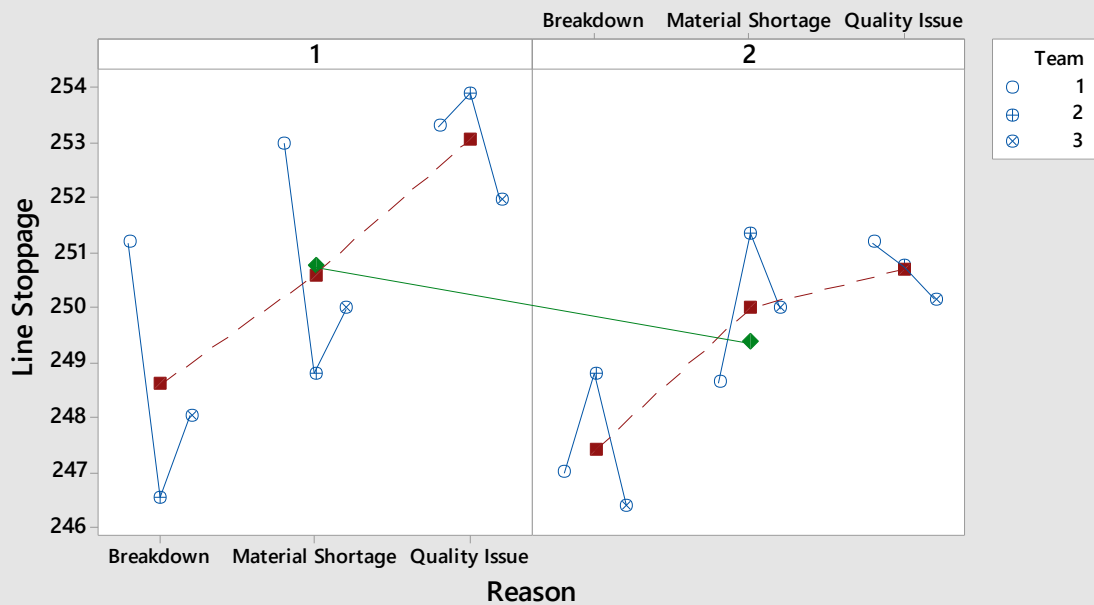
3 Factors seem significant. But by going one step further, one can eliminate Day.

Multi-Vari Chart for Line Stoppage by Team - Reason