



# Unit objectives

**After completing this unit, you should be able to:**

- Learn about the solutions for all the lab exercises

# Lab specifications

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- Hardware requirement:
  - i5 processor
  - 8GB RAM
  - Stable internet connection
- Software requirement:
  - Python
  - IBM Cognos
  - IBM Cloud - Bluemix

# Exercise 1: Solution

- Exercise 1: Polynomial Curve Fitting.

# Exercise 2: Solution

- Exercise 2: Probability and Distribution.

# Exercise 3: Solution

- Exercise 3: Simple Linear regression.

# Exercise 4: Solution

- Exercise 4: Multiple Linear regression.

# Exercise 5: Solution

- Exercise 5: Logistic regression Model.



# Exercise 6: Solution

- Exercise 6: Polynomial regression for classification.

# Exercise 7: Solution

- Exercise 7: Neural Networks.

# Exercise 8: Solution

- Exercise 8: Sparse Kernel Machines.

# Exercise 9: Solution

- Exercise 9: Sampling Methods for Pattern Recognition.

# Exercise 10: Solution

- Exercise 10: Decision Tree.

# Exercise 11: Solution

- Exercise 11: Random forest.

# Exercise 12: Solution

- Exercise 12: SVM – Support vector Machine.

# Exercise 13: Solution

- Exercise 13: Local Outlier Factor (LOF).



# Exercise 14: Solution

- Exercise 14: Cluster based Local Outlier Factor (CBLOF).

# Exercise 15: Solution

- Exercise 15: Local Density Cluster based Outlier Factor (LDCOF).

# Exercise 16: Solution

- Exercise 16: Local Correlation Integral (LOCI).

# Exercise 17: Solution

- Exercise 17: Influenced Outlierness (INFLO).

# Exercise 18: Solution

- Exercise 18. Local Outlier Probability (LoOP).

# Exercise 19: Solution

- Exercise 19: Connectivity based Outlier Factor (COF).

# Exercise 20: Solution

- Exercise 20: OpenCV - Object Detection with CAM.

# Exercise 21: Solution

- Exercise 21: OpenCV - Object Detection with Video.



# Exercise 22: Solution

- Exercise 22: OpenCV - Color Filtering.

# Exercise 23: Solution

- Exercise 23: OpenCV - Object Detection with haar cascade.

# Exercise 24: Solution

- Exercise 24: Graph Theory.

# Exercise 25: Solution

- Exercise 25: GUI for pattern detection.

# Unit summary

**Having completed this unit, you should be able to:**

- Learn about the solutions for all the lab exercises