Exercise Solutions

Solutions to the coding exercises are available in the online Jupyter notebooks at *https://github.com/ageron/handson-ml*.

Chapter 1: The Machine Learning Landscape

1. Machine Learning is about building systems that can learn from data. Learning means getting better at some task, given some performance measure.

2. Machine Learning is great for complex problems for which we have no algorithmic solution, to replace long lists of hand-tuned rules, to build systems that adapt to fluctuating environments, and finally to help humans learn (e.g., data mining).

3. A labeled training set is a training set that contains the desired solution (a.k.a. a label) for each instance.

4. The two most common supervised tasks are regression and classification.

5. Common unsupervised tasks include clustering, visualization, dimensionality reduction, and association rule learning.

6. Reinforcement Learning is likely to perform best if we want a robot to learn to walk in various unknown terrains since this is typically the type of problem that Reinforcement Learning tackles. It might be possible to express the problem as a supervised or semisupervised learning problem, but it would be less natural.

7. If you don't know how to define the groups, then you can use a clustering algorithm (unsupervised learning) to segment your customers into clusters of similar customers. However, if you know what groups you would like to have, then you