

## Dynamic Pricing and Revenue Management

### Homework One (Due: February 22)

1. You are asked to write codes to implement some of the methods we talked about in class. The inputs to your codes are capacity level  $C$ , number of classes  $n$ , fair price vector  $f$ , means  $\mu$  and standard deviations  $\sigma$  of different demand classes (assuming normal distributed).
  - (a) Compute the optimal protection levels.
  - (b) Compute the EMSR-a protection levels.
  - (c) Compute the EMSR-b protection levels.
  - (d) Implement the procedure that combines censored forecasting with EMSR-b protection levels.
  - (e) Implement the adaptive algorithm. Feel free to adjust the step sizes to see the difference.Please test your codes on the fare and demand data in Table 2.5 in the textbook (The Theory and Practice of Revenue Management).