1. **(9 points)** Recall the gross requirements for drawer frame assemblies in Question 1(f) of Homework 9.

<table>
<thead>
<tr>
<th>Week</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross requirement</td>
<td>120</td>
<td>100</td>
<td>200</td>
<td>80</td>
<td>100</td>
</tr>
</tbody>
</table>

The assembly has a lead time of one week, the fixed cost of ordering the assemblies from the supplier is $250, and the holding cost is $2 per unit per period. Find the planned order release and the total cost of the plan based on the following lot sizing methods. For each, tabulate the gross requirements, time-phased net requirements, planned release, planned deliveries, and the ending inventory. Show your calculations.

(a) (3 points) Silver-Meal heuristic.
(b) (optional, will not be graded) Least unit cost.
(c) (3 points) Part period balancing.
(d) (3 points) Optimal lot sizing. For this, only draw the shortest path network and calculate the costs of the arcs. You do not have to find the optimal solution.

2. **(6 points)** Read the article “International O.R.: Customized inventory management” by G. Nenes, S. Panagiotidou and G. Tagaras, OR/MS Today, April 2011, pages 22–26. The article can be accessed through the Georgia Tech Library by searching in the ABI/INFORM database [http://search.proquest.com/abicomplete/index](http://search.proquest.com/abicomplete/index), or simply by searching by title in the library homepage. In answering the following questions, please do not copy and paste text from the article. Use your own words.

(a) (2 points) One of the problems RODA faces is irregular unplanned demand. Describe the three classes of items in terms of their demand patterns and distributions.
(b) (2 points) Briefly describe the parameters of the inventory management policy proposed for RODA. Name two aspects of the policy that are different from the \((Q, R)\) policy we have seen in class.
(c) (2 points) How are the base stock levels determined? What service level policy does this resemble?