Nintendo Switch[1]

Nintendo faces the following demands during the next three weeks: 2000, 1000 and 1500 Switch units, respectively. The production cost for each Switch unit for each week are as follows: week 1, $130; week 2, $140, and week 3, $150. There is a storage/holding cost of $20 per unit, assessed against each week's ending inventory. Nintendo has 500 Switch units on hand at the beginning of week 1. Not all units produced during a week can be used to meet the current weeks' demand. To model this, assume only half of the goods produced during any week can be used to meet the current week's demand. Determine how to minimize the cost of meeting the demand for the next three weeks.

[1] This exercise problem and related solutions were originally developed by Ramesh Alla based on Practical Management Science 5th Edition. This vision is revised by Nowed Patwary.