Lecture 17 Ticket

COSC 311: Algorithms, Fall 2022

Name: _____

Consider the instance of the weighted knapsack problem consisting of five requests with the following durations and values:

1. $d_1 = 4, v_1 = 3$
2. $d_2 = 2, v_2 = 2$
3. $d_3 = 5, v_3 = 5$
4. $d_4 = 3, v_4 = 4$
5. $d_5 = 6, v_5 = 5$

Suppose your total time budget is $B = 10$. Use the dynamic programming algorithm described in Lecture 24 to find the maximal value of a feasible collection of requests *by hand*. What is the collection that achieves the optimal value?

You may find the following grid helpful: