Quiz 3
Correction.

NAME ———————————————————————————
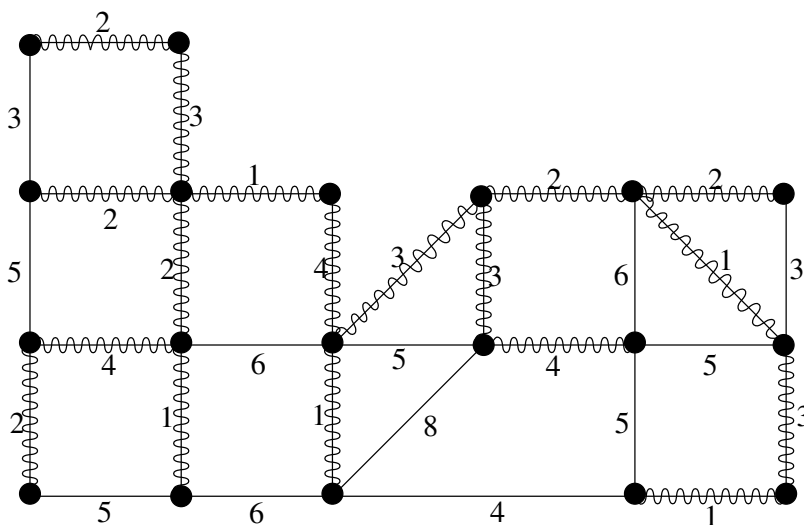
1. Apply Kruskal's algorithm to find a minimal-cost spanning tree of the following graph :


(There are several possible answers)

2. A college student has six pairs of pants, eight tee shirts, three sweatshirts and two pairs of tennis shoes. If an outfit consists of pants, a tee shirt, a sweatshirt and a pair of tennis shoes, how many different outfits can the student wear before repeting one ?
**Answer.** 6.8.3.2=288 outfits.

3. For each of the order-requirement digraphs below (with time given in minutes), determine the earliest completion time for the associated job.
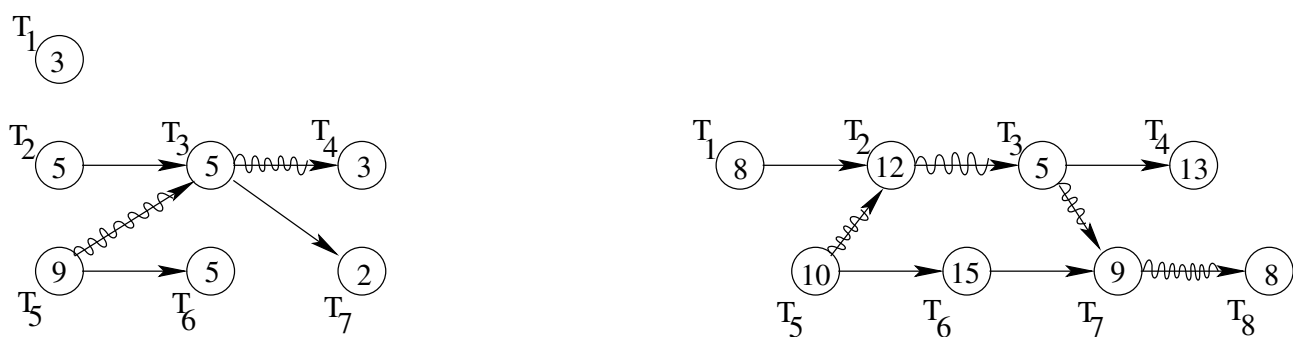

Answer. The wiggly lines are meant to help you see the critical paths, which show that the earliest completion time is 17 minutes for the first job and 44 minutes for the second job.

4. Given the order-requirement digraph below (with time given in minutes) and the priority list $T_1T_2T_3T_4T_5T_6T_7T_8T_9$ apply the list-processing algorithm to construct a schedule using two processors. How much time is required to finished the associated job if one follows the schedule you obtained ?
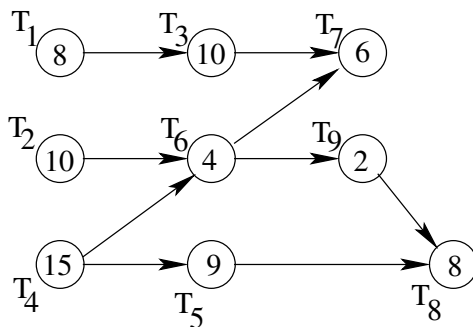
Here is the schedule :
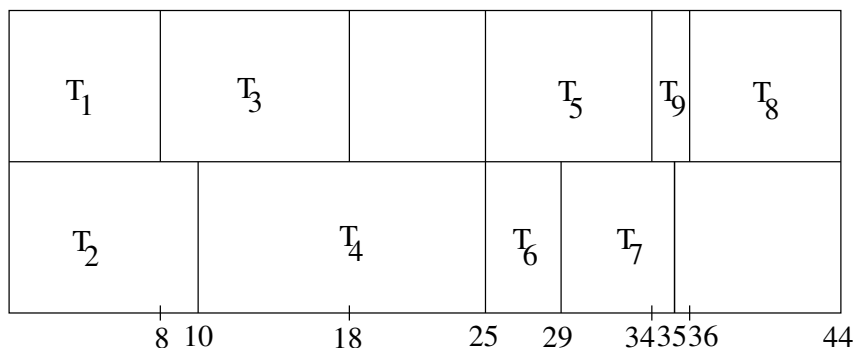
5. For each of the following statements, say whether it is true of false.
(a) A digraph is a graph with exactly two vertices. **FALSE**
(b) Kruskal's algorithm for finding minimum-cost spanning trees always gives optimal results. **TRUE**
(c) A spanning tree of a graph must contain every edge of a graph. **FALSE**
(d) The sorted-edges algorithm for solving the traveling salesman problem always gives optimal results. **FALSE**
(e) The following digraph cannot be an order-requirement digraph. **TRUE**