

Edges

$\{F, E\} \checkmark$ $\{H, G\} \checkmark$
 $\{B, D\} \checkmark$ $\{F, G\} \checkmark$
 $\{B, A\} \checkmark$ $\{E, G\} \checkmark$
 $\{D, E\} \checkmark$ $\{E, G\} \checkmark$
 $\{A, F\} \times$ $\{E, H\}$
 $\{I, G\} \checkmark$ $\{A, I\}$
 $\{C, I\} \checkmark$ $\{I, E\}$
 $\{G, H\} \checkmark$ $\{D, I\}$
 $\{C, D\}$
 $\{B, C\}$

Exercise 1 Find the minimum spanning tree in the following network. Report the edges that belong to the minimum spanning tree as well as the graph of the union-find data structure; connect the root of the tree with the smallest height to the root of the tree with largest height and, in case of a tie, choose as root the node with the smallest label.

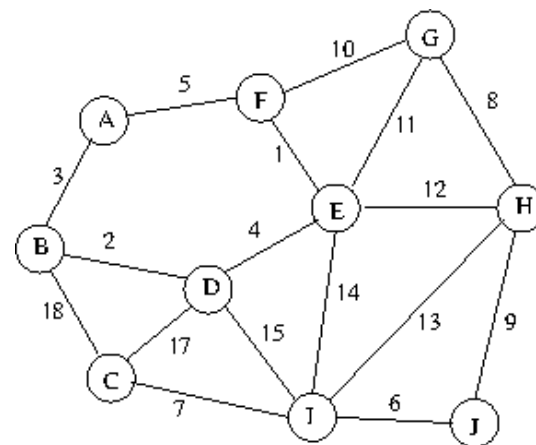


Figure 1 – Graph 1

Exercise 2 Read the problem *Jocas is Stretching the Cable* in EA2025_PL in Mooshak and solve it as a Minimum Spanning Tree Problem.

