Exercise 7

Task 1

Construct an optimal binary search tree for the following elements v with probabilities $\gamma(v)$ (2 means 20% etc.).

v	1	2	3	4	5
$\gamma(v)$	2	1.5	4	1	1.5

Task 2

Assume we want to construct an optimal binary search tree using the following greedy algorithm: Choose an element v for which $\gamma(v)$ is maximal as the root node and then continue recursively. Show that this approach does not always yield an optimal binary search tree.

Task 3

Use Floyd's algorithm to compute all shortest paths in the following graph:

