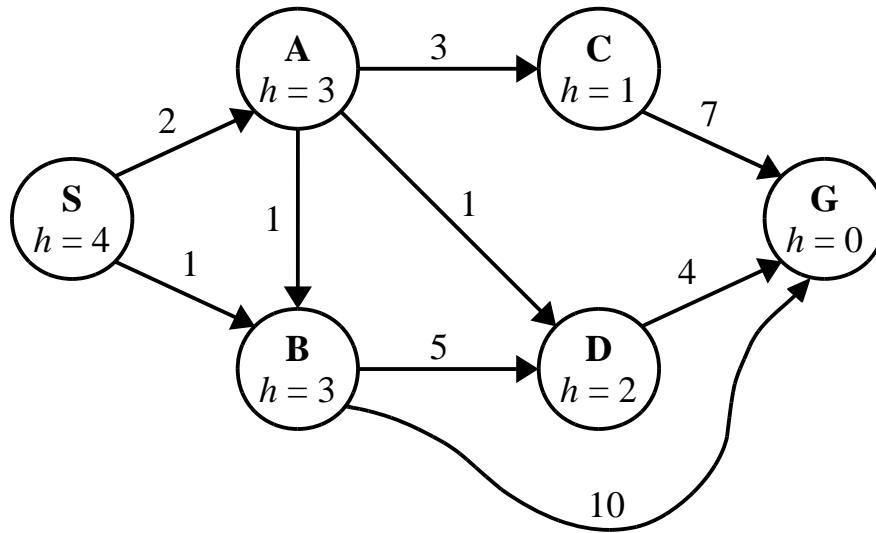


CSE 411: Artificial Intelligence (Elective Course #6)
400 Level, Mechatronics Engineering

Assignment #2

Due date: **Thursday, April 6, 2017**

Consider the following state-space graph. Arcs are labeled with action costs and states are labeled with heuristic values. Assume that ties are broken alphabetically, so a partial plan $S \rightarrow X \rightarrow A$ (*i.e.*, a node reachable through a path $S \rightarrow X \rightarrow A$) would be expanded before $S \rightarrow X \rightarrow B$ and $S \rightarrow A \rightarrow Z$ would be expanded before $S \rightarrow B \rightarrow A$).



Answer the following questions:

1. Determine whether h is admissible and/or consistent. Justify your answer.
2. Build the search tree constructed by each of the following algorithms:
 - a. BFS (graph-version)
 - b. DFS (graph-version)
 - c. UCS (graph-version)
 - d. GBFS (graph-version)
 - e. A* (graph-version)