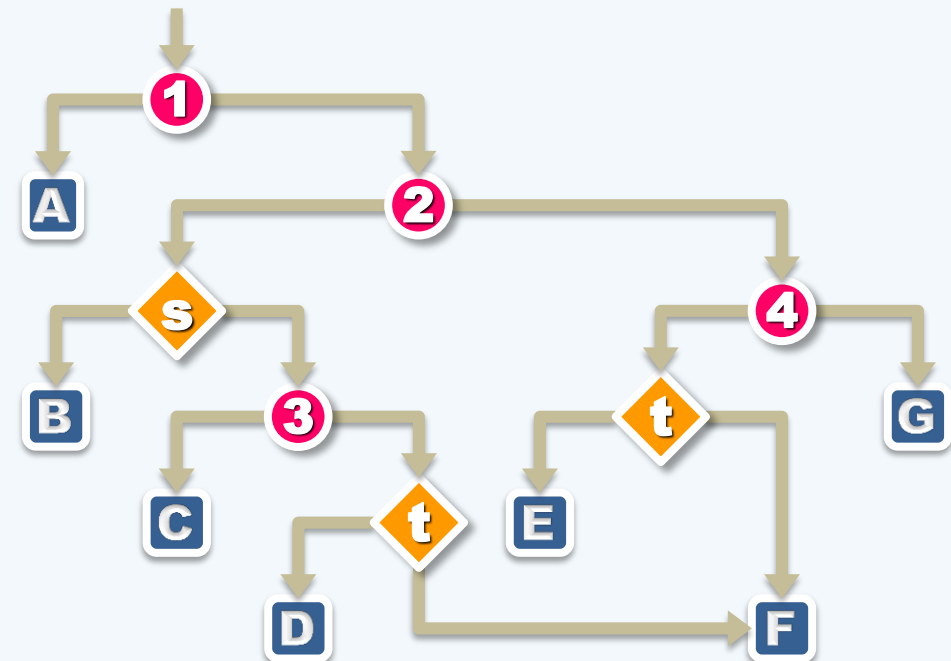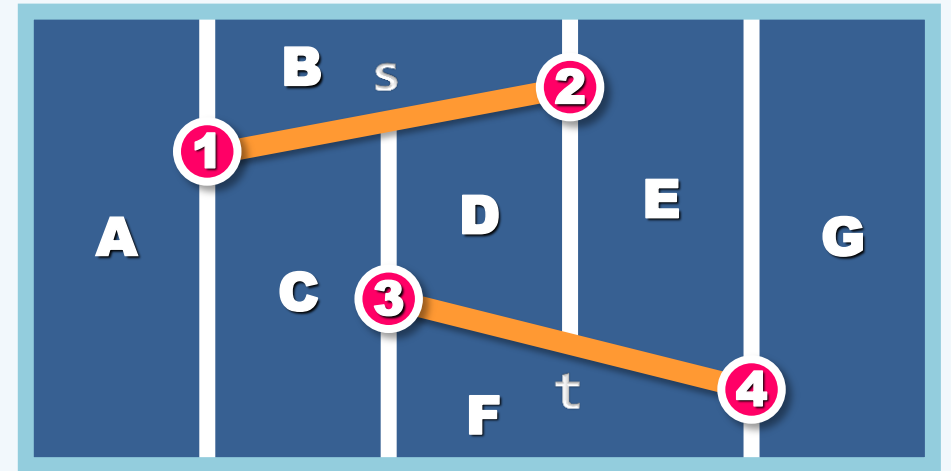# Point Location

Trapezoidal Map

- Search Structure: Nodes
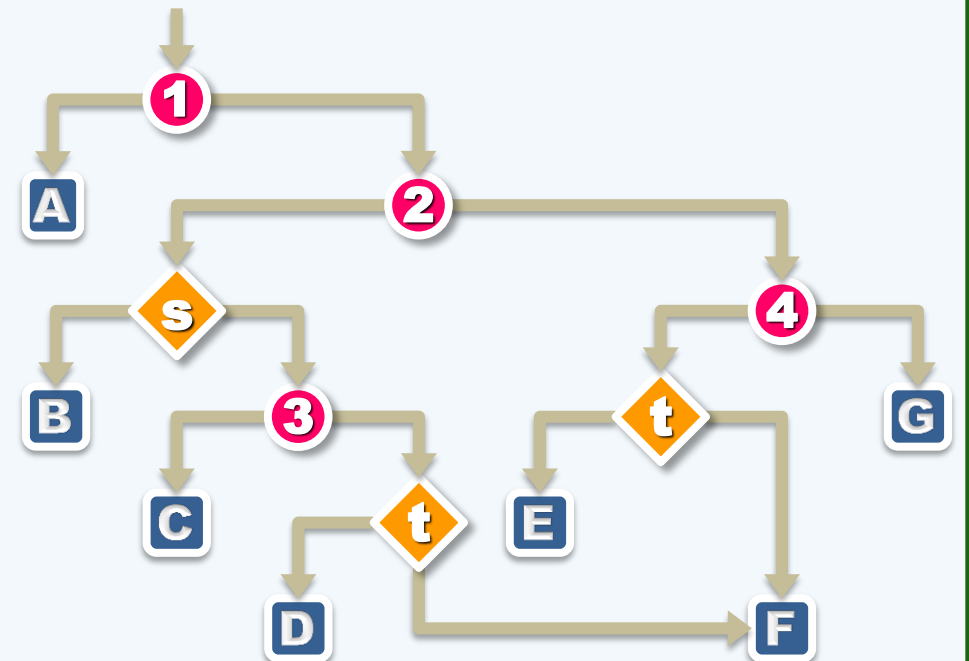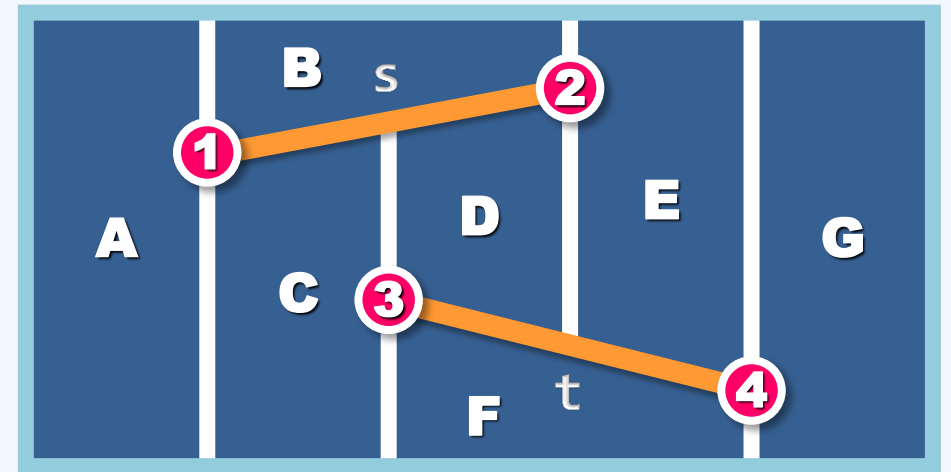
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Terminal Nodes

❖ The search structure is

   a `rooted DAG` where each node

   has either 2 or 0 outgoing edges

❖ Nodes with no outgoing edges

   are called `leaves`,

   `one for each trapezoid`

   in TM(S)

X-Nodes

❖ **Contains x-coordinate of**

  an endpoint

   of one of the segments

❖ **Has 2 children**

  corresponding to points

  lying to its `left` **or** `right`

Y-Nodes

❖ **Contains a pointer**

   to a line segment of S

❖ **Has 2 children**

   corresponding to points

   lying `above` **or** `below`

   the segment