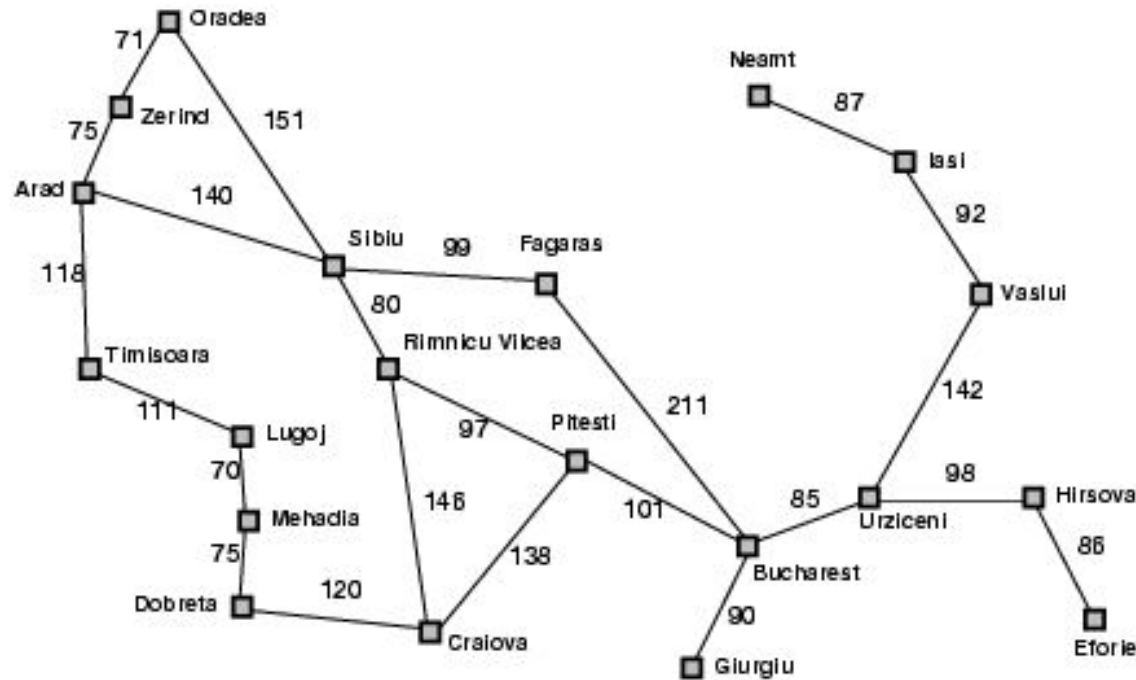


# A\* Search Example

# Now with straight line distances!



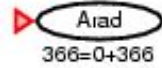
Straight-line distance  
to Bucharest

Arad	366
Bucharest	0
Craiova	160
Dobreta	242
Eforie	161
Fagaras	176
Giurgiu	77
Hirsova	151
Iasi	226
Lugoj	244
Mehadia	241
Neamt	234
Oradea	380
Pitesti	10
Rimnicu Vilcea	193
Sibiu	253
Timisoara	329
Urziceni	80
Vaslui	199
Zerind	374

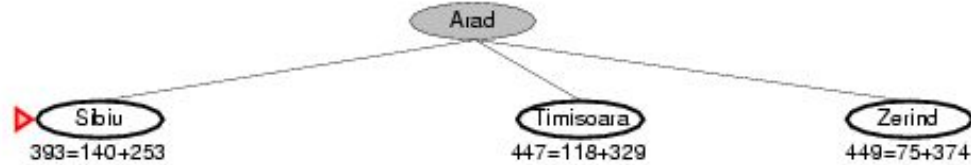
# A\* search

- Idea: avoid expanding paths that are already expensive
- Evaluation function  $f(n) = g(n) + h(n)$
- $g(n)$  = cost so far to reach  $n$
- $h(n)$  = estimated cost from  $n$  to goal
- $f(n)$  = estimated total cost of path through  $n$  to goal

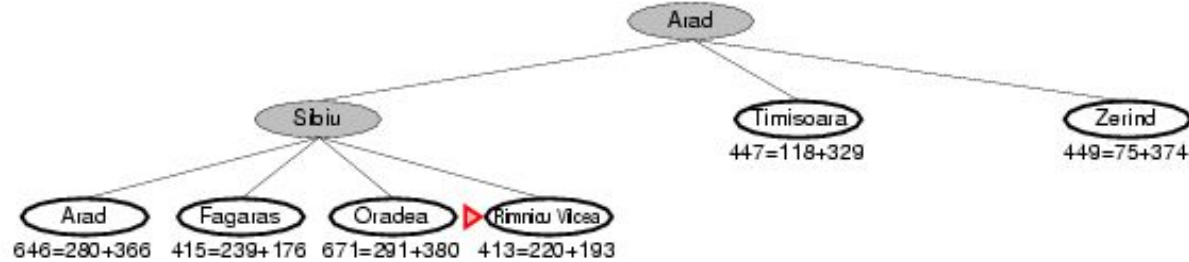
# A\* search example



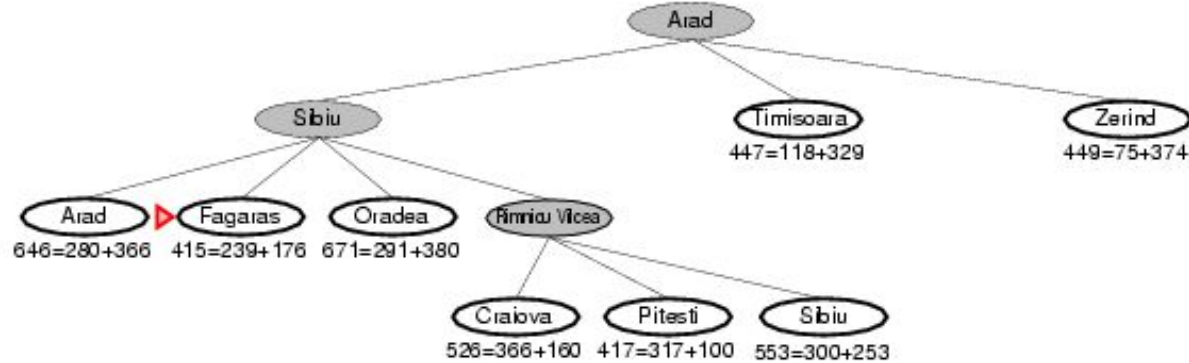
# A\* search example



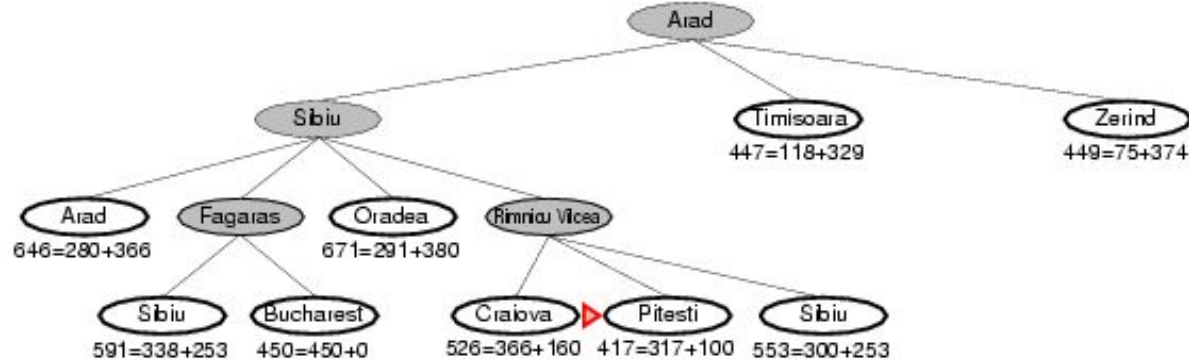
# A\* search example



# A\* search example



# A\* search example





# A\* search example

