

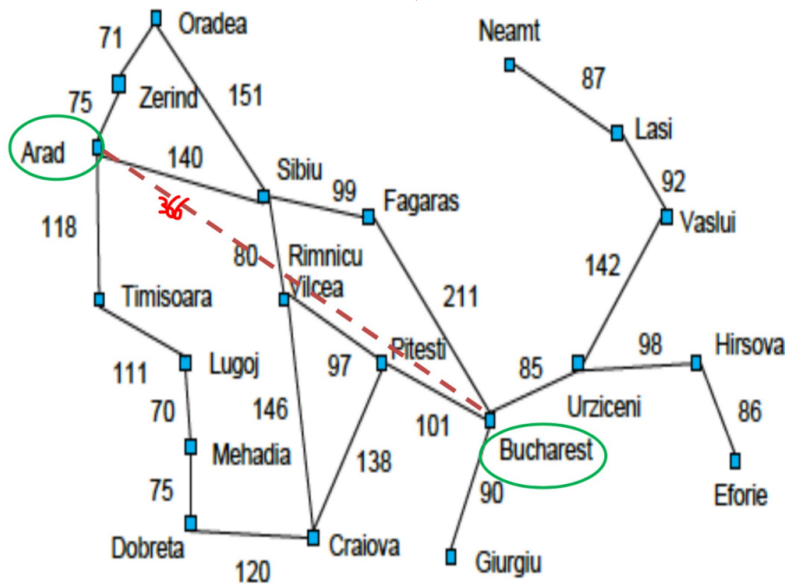
### 3.4.5.3.3 greedy Find Path

**Example: (greedy) Best-First to Find a Path from Arad to Bucharest**

$h(n)$  : evaluation function = estimate of cost from  $n$  to the closest goal

$h_{SLD}(n)$  = straight-line distance from  $n$  to **Bucharest**

$f(n) = h_{SLD}(n)$   $g(n)=0$  不累积初始值



$h(n)$  SLD from  $a$  to  $b$

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	100
Rimnicu Vilcea	193
Sibiu	253
Timisoara	329
Urziceni	80
Vaslui	199
Zerind	374

Fig.3.2 A Simplified road map of part of Romania

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Solution

① Initial State

Arad

366

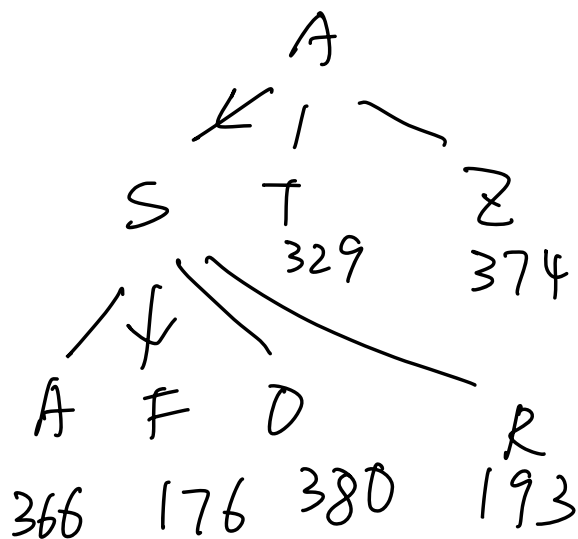
② expand

A

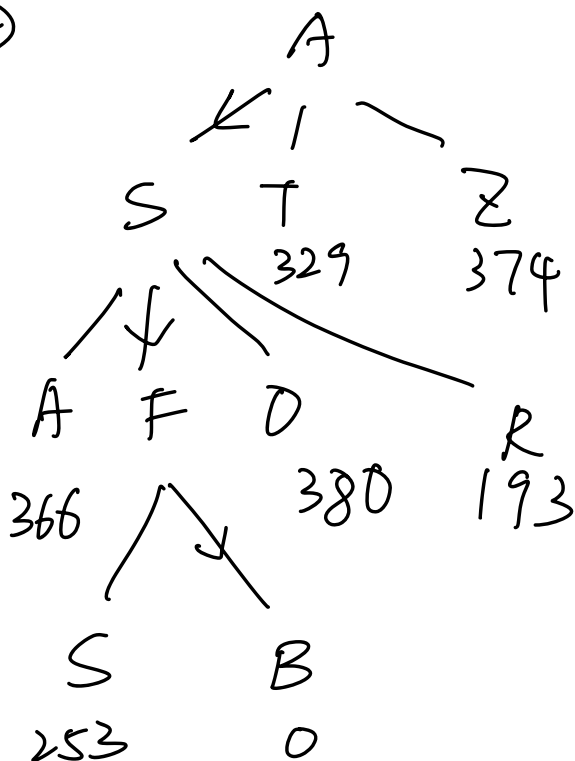
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 S T Z

253 329 374

③ expand



④



⑤ total :  $A \rightarrow S \rightarrow F \rightarrow B$

$$= 140 + 99 + 211 = 450$$