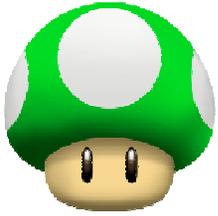


# INF 1771 – Inteligência Artificial

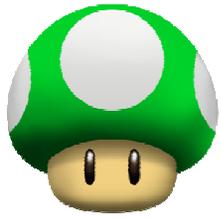
## Busca Heurística - Exemplo

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<elima@inf.puc-rio.br>



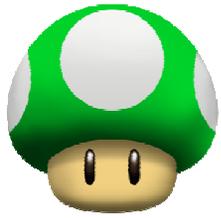
# Exemplo - A\*

	1	2	3	4	5
1	😊		█		X
2			█		
3		█	█		
4					



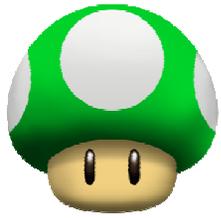
## Exemplo – A\*

- 💡 Qual é o espaço de estados?
- 💡 Quais são as ações possíveis?
- 💡 Qual será o custo das ações?



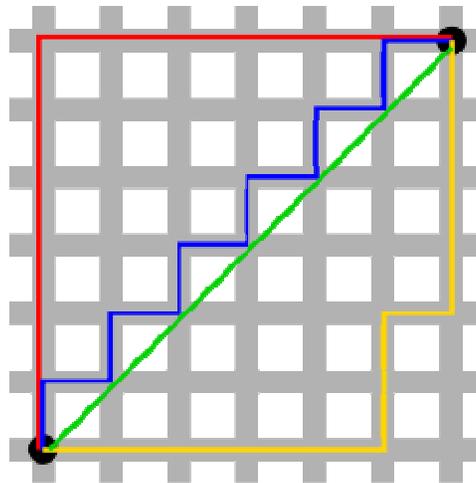
## Exemplo – A\*

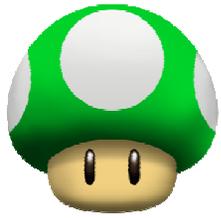
- ❏ Heurística do A\*:  $f(n) = g(n) + h(n)$ 
  - ❏  $g(n)$  = custo do caminho
  - ❏  $h(n)$  = função heurística
- ❏ Qual seria a função heurística  $h(n)$  mais adequada para este problema?
  - ❏ A distancia em linha reta é uma opção.



# Exemplo – A\*

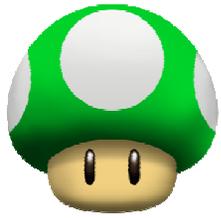
- 💡 Como calcular a heurística  $h(n)$ ?
- 💡 Distancia de Manhattan



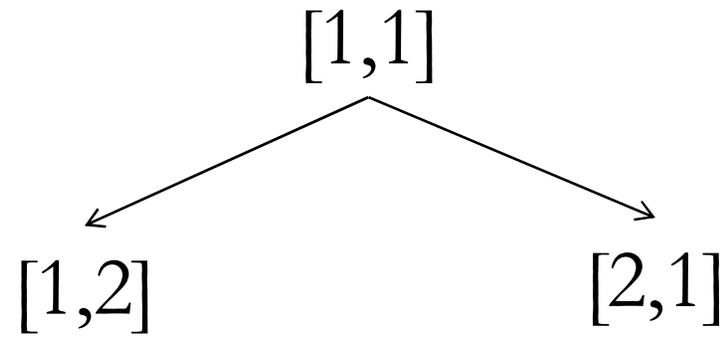


## Exemplo – A\*

- ❏ O próximo passo é gerar a árvore de busca e expandir os nós que tiverem o menor valor resultante da função heurística  $f(n)$ .
  - ❏  $f(n) = g(n) + h(n)$

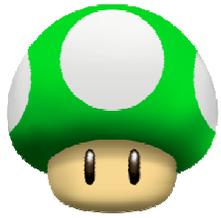


# Exemplo – A\*



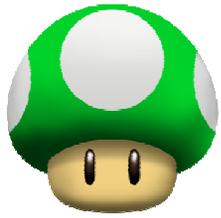
💡  $[1,2] = f(n) = ?? + ??$

💡  $[2,1] = f(n) = ?? + ??$

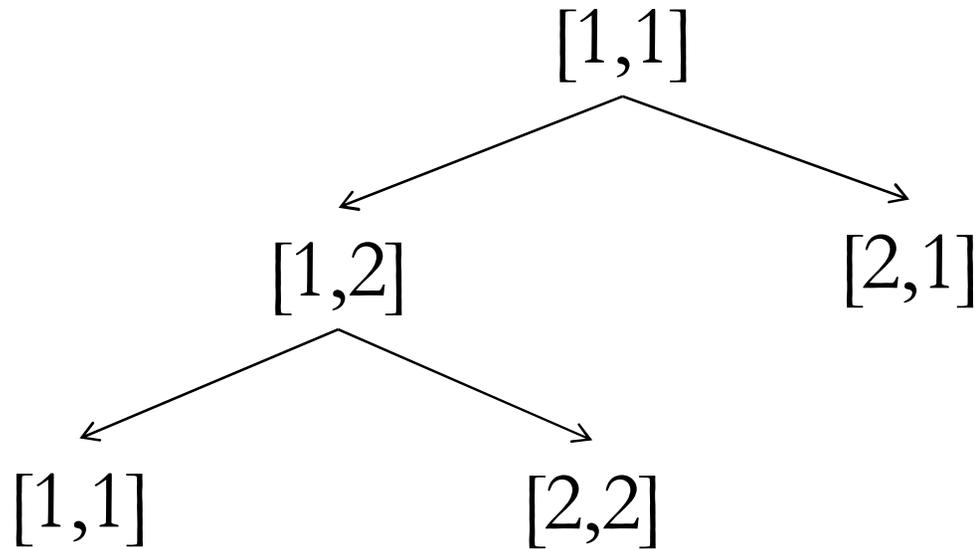


# Exemplo - A\*

	1	2	3	4	5
1	😊		█		X
2			█		
3		█	█		
4					

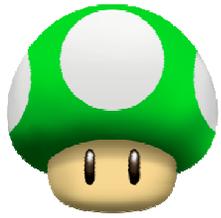


# Exemplo - A\*



💡  $[1,1] = f(n) = ?? + ??$

💡  $[2,2] = f(n) = ?? + ??$



# Exemplo - A\*

	1	2	3	4	5
1	😊		█		X
2			█		
3		█	█		
4					