



**COMP 3710 - 3**  
**Applied Artificial Intelligence (3,1,0)**  
**Fall 2017**

**Seminar/Lab 3**  
**Local search, and CSPs**






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## 1. Local search for 5-queens problem

- Initial board






					
					
					
					
					
A	B	C	D	E	
2	1	1	2	2	
					= 8




					
					
					
					
A	B	C	D	E	
2	1	1	2	2	=8
2	2	1	1	1	=7






1	2	1	1	1	= 6
2	2	2	1	1	= 8
1	1	1	1	2	= 6









					
					
					
					
					
A	B	C	D	E	
0	1	1	1	1	= 4
1	3	1	2	2	= 9
1	2	1	1	1	= 6
1	2	0	2	1	= 5
0	1	1	1	2	= 6






					
					
					
					
A	B	C	D	E	
1	1	1	1	1	= 5
0	1	1	1	1	= 4
1	0	2	2	2	= 7
0	0	1	2	1	= 4
0	0	1	2	2	= 6





				
				
				
				
				
A	B	C	D	E

0	1	0	1	0	= 2
0	0	0	0	0	= 0 (Find Goal)
0	1	1	1	0	= 3
0	0	1	2	1	= 4
0	0	1	2	1	=4

## 2. CSP




				
A	B	C	D	E
0	2	2	4	4







				
				

A	B	C	D	E
		1	3	2








				
				
				
A	B	C	D	E
			1	2



A	B	C	D	E
				1



				
				
				
				
				
A	B	C	D	E
				0 (Find Goal)