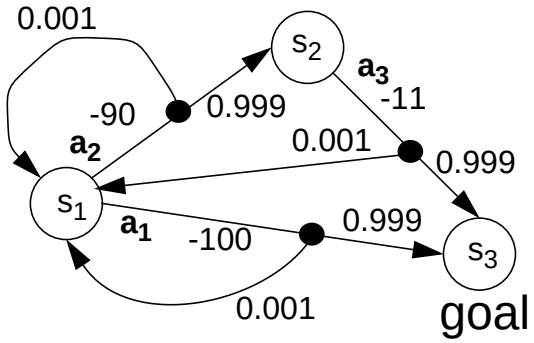
Sample solution for MDP problem:



With gamma = 1 (no discounting), value iteration gives something like this:

i		0	1	2	3	4	5	etc.
state 1	a1	0	-100	-100.1 *	-100.09 *	-100.1001001 *	-100.1001001 *	
	a2		-90 *	-101.079	-101.17901	-101.1891	-101.1891001	
state 2	a3	0	-11	-11.09	-11.1001	-11.1001001	-11.1001001	
state 3 = goal		0	0	0	0	0	0	

So, in state 1, action 1 is preferred over action 2

But with gamma = 0.9, value iteration gives something like this:

i		0	1	2	3	4	5	etc.
state 1	a1	0	-100	-100.081	-100.089974	-100.0900476	-100.090055	
	a2		-90 *	-99.9711*	-100.0529011*	-100.0610766 *	-100.0611468 *	
state 2	a3	0	-11	-11.081	-11.08997399	-11.09008098	-11.09005497	
state 3 = goal		0	0	0	0	0	0	

So, in state 1, action 2 is preferred over action 1