Assignment 2

Utilities: -2 = Invalid Move, worst utility (game progress-wise)

 -1 = Death, bad utility.

  0 = Move to empty space. Average utility.

  1 = Pushing a tile. A good move that progresses the game.

  2 = Pushing a tile into the hole. Completing game objectives. Highest priority.

State E_5

	X	
	A	

e₅

	X	
A		

e₁₀

$u(e_5—a_{10}\rightarrow e_{10})= 0$

	X	
		A

e₁₁

$u(e_5—a_{11}\rightarrow e_{11})=0$

	X	
	A	

e₁₂

$u(e_5—a_{12}\rightarrow e_{12})=0$

	AX	

e₁₃

Not a valid move. -2 utility

State E_6

	T	
	A	

e_6

	T	
A		

e_{14}

$u(e_6 — a_{14} \rightarrow e_{14}) = 0$

	T	
		A

e_{15}

$u(e_6 — a_{15} \rightarrow e_{15}) = 0$

	T	
	A	

e_{16}

$u(e_6 — a_{16} \rightarrow e_{16}) = 0$

	T	
	A	

e_{17}

$u(e_6 -- a_{17} \rightarrow e_{17}) = 1$

State E_7

	H	
	T	
	A	

e_7

	H	
	T	
A		

e_{18}

$u(e_7 — a_{18} \rightarrow e_{18}) = 0$

	H	
	T	
		A

e_{19}

$u(e_7 — a_{19} \rightarrow e_{19}) = 0$

	H	
	T	
	A	

e_{20}

$u(e_7 — a_{20} \rightarrow e_{20}) = 0$

	H	
	A	

e_{21}

$u(e_7 — a_{21} \rightarrow e_{21}) = 2$

State E_8

	X	
	T	
	A	

e_8

	X	
	T	
A		

e_{22}

$u(e_8—a_{22} \rightarrow e_{22}) = 0$

	X	
	T	
		A

e_{23}

$u(e_8—a_{23} \rightarrow e_{23}) = 0$

	X	
	T	
	A	

e_{24}

$u(e_8—a_{24} \rightarrow e_{25}) = 0$

	X	
	AT	

e_{25}

Not a valid move. -2 utility

State E9

	T	
	T	
	A	

e9

	T	
	T	
A		

e26

$u(e_9—a_{26}\rightarrow e_{26})= 0$

	T	
	T	
		A

e27

$u(e_9—a_{27}\rightarrow e_{27})=0$

	T	
	T	
	A	

E28

$u(e_9—a_{28}\rightarrow e_{28})=0$

	T	
	AT	

e29

Not a valid move. -2 utility.