Anthony Goh 3-2-16  
CISC 3665 Assignment 2 Part 2

**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 E5

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | X |  |  |  | X |  |  |  | X |  |  |  |
|  | A |  |  | A |  |  |  |  |  | A |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

e5  e10 e11 u(e5—a10🡪e10)= 0 u(e5—a11🡪e11)=0

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | X |  |  |  | AX |  |
|  |  |  |  |  |  |  |
|  | A |  |  |  |  |  |

e12 e13u(e5—a12🡪e12)=0 Not a valid move. -2 utility

State E6

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | T |  |  |  | T |  |  |  | T |  |  |  |
|  | A |  |  | A |  |  |  |  |  | A |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

e6  e14 e15 u(e6—a14🡪e14)= 0 u(e6—a15🡪e15)=0

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | T |  |  |  | T |  | e17 | |
|  |  |  |  |  | A |  | u(e6--a17🡪e17)=1 | |
|  | A |  |  |  |  |  |  | |
| e16 u(e6—a16🡪e16)=0 | | |  |  |  |  |  |

State E7

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | H |  |  |  | H |  |  |  | H |  |  |  |
|  | T |  |  |  | T |  |  |  | T |  |  |  |
|  | A |  |  | A |  |  |  |  |  | A |  |  |

e7  e18 e19 u(e7—a18🡪e18)= 0 u(e7—a19🡪e19)=0

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | H |  |  |  | H |  |
|  | T |  |  |  | A |  |
|  |  |  |  |  |  |  |
|  | A |  |  |  |  |  |

e20 e21u(e7—a20🡪e20)=0 u(e7—a21🡪e21)=2

State E8

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | X |  |  |  | X |  |  |  | X |  |  |  |
|  | T |  |  |  | T |  |  |  | T |  |  |  |
|  | A |  |  | A |  |  |  |  |  | A |  |  |

e8  e22 e23 u(e8—a22🡪e22)= 0 u(e8—a23🡪e23)=0

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | X |  |  |  | X |  |
|  | T |  |  |  | AT |  |
|  |  |  |  |  |  |  |
|  | A |  |  |  |  |  |

e24 e25u(e8—a24🡪e25)=0 Not a valid move. -2 utility

State E9

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | T |  |  |  | T |  |  |  | T |  |  |  |
|  | T |  |  |  | T |  |  |  | T |  |  |  |
|  | A |  |  | A |  |  |  |  |  | A |  |  |

e9  e26 e27 u(e9—a26🡪e26)= 0 u(e9—a27🡪e27)=0

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | T |  |  |  | T |  |
|  | T |  |  |  | AT |  |
|  |  |  |  |  |  |  |
|  | A |  |  |  |  |  |

E28 e29u(e9—a28🡪e28)=0 Not a valid move. -2 utility.