

CS4023D Artificial Intelligence

Assignment 1

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Q2.

Outputs:

- An example where the computer (agent) will win the game.

```
PS D:\SEM 7\AI\Assignment> python q2.py
```

```
Minimax Algorithm game
```

```
-----
```

```
Enter number of stones in pile 1: 10
```

```
Enter number of stones in pile 2: 10
```

```
-----PLAYER'S TURN:-----
```

```
Pile, No. of stones : |
```

```
PS D:\SEM 7\AI\Assignment> python q2.py
```

```
Minimax Algorithm game
```

```
-----
```

```
Enter number of stones in pile 1: 10
```

```
Enter number of stones in pile 2: 10
```

```
-----PLAYER'S TURN:-----
```

```
Pile, No. of stones : 1 6
```

```
PILE 1 : 4   ::   PILE 2 : 10
```

```
-----COMPUTER'S TURN:-----
```

```
Pile, No. of stones : 2 6
```

```
PILE 1 : 4   ::   PILE 2 : 4
```

```
-----PLAYER'S TURN:-----
```

```
Pile, No. of stones : |
```

```
PS D:\SEM 7\AI\Assignment> python q2.py
```

```
Minimax Algorithm game
```

```
-----
```

```
Enter number of stones in pile 1: 10
```

```
Enter number of stones in pile 2: 10
```

```
-----PLAYER'S TURN:-----
```

```
Pile, No. of stones : 1 6
```

```
PILE 1 : 4   ::   PILE 2 : 10
```

```
-----COMPUTER'S TURN:-----
```

```
Pile, No. of stones : 2 6
```

```
PILE 1 : 4   ::   PILE 2 : 4
```

```
-----PLAYER'S TURN:-----
```

```
Pile, No. of stones : 2 5
```

```
Invalid numbers. Enter again.
```

```
-----PLAYER'S TURN:-----
```

```
Pile, No. of stones : 5 2
```

```
Invalid numbers. Enter again.
```

```
-----PLAYER'S TURN:-----
```

```
Pile, No. of stones : |
```

The image below shows the event where the human player enters invalid pile/stone numbers.

```
PS D:\SEM 7\AI\Assignment> python q2.py

Minimax Algorithm game
-----
Enter number of stones in pile 1: 10
Enter number of stones in pile 2: 10

-----PLAYER'S TURN:-----
Pile, No. of stones : 1 6

          PILE 1 : 4   ::   PILE 2 : 10

-----COMPUTER'S TURN:-----
Pile, No. of stones : 2 6

          PILE 1 : 4   ::   PILE 2 : 4

-----PLAYER'S TURN:-----
Pile, No. of stones : 2 5
Invalid numbers. Enter again.

-----PLAYER'S TURN:-----
Pile, No. of stones : 5 2
Invalid numbers. Enter again.

-----PLAYER'S TURN:-----
Pile, No. of stones : 2 2

          PILE 1 : 4   ::   PILE 2 : 2

-----COMPUTER'S TURN:-----
Pile, No. of stones : 1 2

          PILE 1 : 2   ::   PILE 2 : 2

-----PLAYER'S TURN:-----
Pile, No. of stones : 1 2

          PILE 1 : 0   ::   PILE 2 : 2

-----COMPUTER'S TURN:-----
Pile, No. of stones : 2 2

          PILE 1 : 0   ::   PILE 2 : 0

COMPUTER WINS!!
PS D:\SEM 7\AI\Assignment> |
```

- An example where the computer (agent) will win the game.

```
PS D:\SEM 7\AI\Assignment> python q2.py

Minimax Algorithm game
-----
Enter number of stones in pile 1: 6
Enter number of stones in pile 2: 4

-----PLAYER'S TURN:-----
Pile, No. of stones : 1 2

          PILE 1 : 4   ::   PILE 2 : 4

-----COMPUTER'S TURN:-----
Pile, No. of stones : 1 2

          PILE 1 : 2   ::   PILE 2 : 4

-----PLAYER'S TURN:-----
Pile, No. of stones : 2 2

          PILE 1 : 2   ::   PILE 2 : 2

-----COMPUTER'S TURN:-----
Pile, No. of stones : 1 2

          PILE 1 : 0   ::   PILE 2 : 2

-----PLAYER'S TURN:-----
Pile, No. of stones : 2 2

          PILE 1 : 0   ::   PILE 2 : 0

PLAYER WINS!!
PS D:\SEM 7\AI\Assignment> |
```