CS-360 (Fall 2018): Artificial Intelligence
Assignment 02- Condition Action Rules Table

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Problem Statement

Consider a room of 2x1 tiles. An agent is required to clean the room. Agent can perform following action represented in binary numbers.

00 = Do nothing

01 = Clean

10 = move Left

11 = move Right

Then the condition action rules table would be as following.

L	R	P	A	
0	0	0	0	0
0	0	1	0	0
0	1	0	1	1
0	1	1	0	1
1	0	0	0	1
1	0	1	1	0
1	1	0	0	1
1	1	1	0	1

Here L and R represent left and right respectively. if tile bit is 0 then tile is clean, if bit is 1 the tile is dirty. P represents the position of the agent if P = 0 then agent is at tile L if P = 1 then agent is at tile R.

A represents the action that robot should take in given condition. It could be noted that the agent required at least 40 bits to store condition action rules in a table for a room such as above.

Now you have to **calculate size** of condition action rules table in **number of bits** such that the floor has **15x15 tiles** and the agent can perform following actions.

Do nothing, Clean, Move Left, Move Right, Move Forward and Move Backward.