Bill Qualls – CSC480 – Assignment 3 – Strips OUTPUT

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Microsoft Windows [Version 6.1.7601]
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C:\Users\Owner>cd C:\Users\Owner\Desktop\BQ\School\DePaul\CSC480 Artificial Inte
lligence I\strips

C:\Users\Owner\Desktop\BQ\School\DePaul\CSC480 Artificial Intelligence I\strips>
java -jar strips.jar
DePaul - CSC480 - Bill Qualls
STRIPS Programming Assignment

B I L L ' S   " S T R I P S "   M E N U

  1 Tower of Hanoi (4 disks, 3 pegs)
  2 Blocks (in-class example, A/B/C)
  3 Vaccum Robot (1 robot, 1 clean room, 1 dirty room)
  4 Smart Bird (adapted from YouTube video)
  Q Quit

Choice? 1

STARTING STATE:
LastDiskMoved(NULL) /\ Smaller(Disk(1), Disk(2)) /\ Smaller(Disk(1), Disk(3)) /\
 Smaller(Disk(1), Disk(4)) /\ Smaller(Disk(2), Disk(3)) /\ Smaller(Disk(2), Disk
(4)) /\ Smaller(Disk(3), Disk(4)) /\ OnTop(Disk(1)) /\ OnDisk(Disk(1), Disk(2))
/\ OnDisk(Disk(2), Disk(3)) /\ OnDisk(Disk(3), Disk(4)) /\ OnBottom(Disk(4)) /\
OnPeg(Disk(4), Peg(Left)) /\ IsClear(Peg(Middle)) /\ IsClear(Peg(Right)).

GOAL STATE:
OnTop(Disk(1)) /\ OnDisk(Disk(1), Disk(2)) /\ OnDisk(Disk(2), Disk(3)) /\ OnDisk
(Disk(3), Disk(4)) /\ OnBottom(Disk(4)) /\ OnPeg(Disk(4), Peg(Middle)) /\ IsClea
r(Peg(Left)) /\ IsClear(Peg(Right)).

DEFINED ACTIONS:
ACTION: MOVE Disk(1) WHICH IS ON Disk(2) TO EMPTY PEG Peg(Left).
ACTION: MOVE Disk(1) WHICH IS ON Disk(3) TO EMPTY PEG Peg(Left).
ACTION: MOVE Disk(1) WHICH IS ON Disk(4) TO EMPTY PEG Peg(Left).
ACTION: MOVE Disk(2) WHICH IS ON Disk(3) TO EMPTY PEG Peg(Left).
ACTION: MOVE Disk(2) WHICH IS ON Disk(4) TO EMPTY PEG Peg(Left).
ACTION: MOVE Disk(3) WHICH IS ON Disk(4) TO EMPTY PEG Peg(Left).
ACTION: MOVE Disk(1) WHICH IS ON Disk(2) TO EMPTY PEG Peg(Middle).
ACTION: MOVE Disk(1) WHICH IS ON Disk(3) TO EMPTY PEG Peg(Middle).
ACTION: MOVE Disk(1) WHICH IS ON Disk(4) TO EMPTY PEG Peg(Middle).
ACTION: MOVE Disk(2) WHICH IS ON Disk(3) TO EMPTY PEG Peg(Middle).
ACTION: MOVE Disk(2) WHICH IS ON Disk(4) TO EMPTY PEG Peg(Middle).
ACTION: MOVE Disk(3) WHICH IS ON Disk(4) TO EMPTY PEG Peg(Middle).
ACTION: MOVE Disk(1) WHICH IS ON Disk(2) TO EMPTY PEG Peg(Right).
ACTION: MOVE Disk(1) WHICH IS ON Disk(3) TO EMPTY PEG Peg(Right).
ACTION: MOVE Disk(1) WHICH IS ON Disk(4) TO EMPTY PEG Peg(Right).
ACTION: MOVE Disk(2) WHICH IS ON Disk(3) TO EMPTY PEG Peg(Right).
ACTION: MOVE Disk(2) WHICH IS ON Disk(4) TO EMPTY PEG Peg(Right).
ACTION: MOVE Disk(3) WHICH IS ON Disk(4) TO EMPTY PEG Peg(Right).
ACTION: MOVE BOTTOM DISK Disk(1) FROM PEG Peg(Left) TO EMPTY PEG Peg(Middle).
ACTION: MOVE BOTTOM DISK Disk(2) FROM PEG Peg(Left) TO EMPTY PEG Peg(Middle).
ACTION: MOVE BOTTOM DISK Disk(3) FROM PEG Peg(Left) TO EMPTY PEG Peg(Middle).
ACTION: MOVE BOTTOM DISK Disk(4) FROM PEG Peg(Left) TO EMPTY PEG Peg(Middle).
ACTION: MOVE BOTTOM DISK Disk(1) FROM PEG Peg(Middle) TO EMPTY PEG Peg(Left).
ACTION: MOVE BOTTOM DISK Disk(2) FROM PEG Peg(Middle) TO EMPTY PEG Peg(Left).
ACTION: MOVE BOTTOM DISK Disk(3) FROM PEG Peg(Middle) TO EMPTY PEG Peg(Left).
ACTION: MOVE BOTTOM DISK Disk(4) FROM PEG Peg(Middle) TO EMPTY PEG Peg(Left).
ACTION: MOVE BOTTOM DISK Disk(1) FROM PEG Peg(Left) TO EMPTY PEG Peg(Right).
ACTION: MOVE BOTTOM DISK Disk(2) FROM PEG Peg(Left) TO EMPTY PEG Peg(Right).
ACTION: MOVE BOTTOM DISK Disk(3) FROM PEG Peg(Left) TO EMPTY PEG Peg(Right).
ACTION: MOVE BOTTOM DISK Disk(4) FROM PEG Peg(Left) TO EMPTY PEG Peg(Right).
ACTION: MOVE BOTTOM DISK Disk(1) FROM PEG Peg(Right) TO EMPTY PEG Peg(Left).
ACTION: MOVE BOTTOM DISK Disk(2) FROM PEG Peg(Right) TO EMPTY PEG Peg(Left).
ACTION: MOVE BOTTOM DISK Disk(3) FROM PEG Peg(Right) TO EMPTY PEG Peg(Left).
ACTION: MOVE BOTTOM DISK Disk(4) FROM PEG Peg(Right) TO EMPTY PEG Peg(Left).
ACTION: MOVE BOTTOM DISK Disk(1) FROM PEG Peg(Middle) TO EMPTY PEG Peg(Right).
ACTION: MOVE BOTTOM DISK Disk(2) FROM PEG Peg(Middle) TO EMPTY PEG Peg(Right).
ACTION: MOVE BOTTOM DISK Disk(3) FROM PEG Peg(Middle) TO EMPTY PEG Peg(Right).
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ACTION: MOVE BOTTOM DISK Disk(4) FROM PEG Peg(Middle) TO EMPTY PEG Peg(Right).
ACTION: MOVE BOTTOM DISK Disk(1) FROM PEG Peg(Right) TO EMPTY PEG Peg(Middle).
ACTION: MOVE BOTTOM DISK Disk(2) FROM PEG Peg(Right) TO EMPTY PEG Peg(Middle).
ACTION: MOVE BOTTOM DISK Disk(3) FROM PEG Peg(Right) TO EMPTY PEG Peg(Middle).
ACTION: MOVE BOTTOM DISK Disk(4) FROM PEG Peg(Right) TO EMPTY PEG Peg(Middle).
ACTION: MOVE Disk(1) WHICH IS ON Disk(2) TO ON TOP OF Disk(3).
ACTION: MOVE Disk(1) WHICH IS ON Disk(2) TO ON TOP OF Disk(4).
ACTION: MOVE Disk(1) WHICH IS ON Disk(3) TO ON TOP OF Disk(2).
ACTION: MOVE Disk(1) WHICH IS ON Disk(3) TO ON TOP OF Disk(4).
ACTION: MOVE Disk(1) WHICH IS ON Disk(4) TO ON TOP OF Disk(2).
ACTION: MOVE Disk(1) WHICH IS ON Disk(4) TO ON TOP OF Disk(3).
ACTION: MOVE Disk(2) WHICH IS ON Disk(3) TO ON TOP OF Disk(4).
ACTION: MOVE Disk(2) WHICH IS ON Disk(4) TO ON TOP OF Disk(3).
ACTION: MOVE Disk(1) WHICH IS BOTTOM OF PEG Peg(Right) TO ON TOP OF Disk(2).
ACTION: MOVE Disk(1) WHICH IS BOTTOM OF PEG Peg(Right) TO ON TOP OF Disk(3).
ACTION: MOVE Disk(1) WHICH IS BOTTOM OF PEG Peg(Right) TO ON TOP OF Disk(4).
ACTION: MOVE Disk(2) WHICH IS BOTTOM OF PEG Peg(Right) TO ON TOP OF Disk(3).
ACTION: MOVE Disk(2) WHICH IS BOTTOM OF PEG Peg(Right) TO ON TOP OF Disk(4).
ACTION: MOVE Disk(3) WHICH IS BOTTOM OF PEG Peg(Right) TO ON TOP OF Disk(4).
ACTION: MOVE Disk(1) WHICH IS BOTTOM OF PEG Peg(Middle) TO ON TOP OF Disk(2).
ACTION: MOVE Disk(1) WHICH IS BOTTOM OF PEG Peg(Middle) TO ON TOP OF Disk(3).
ACTION: MOVE Disk(1) WHICH IS BOTTOM OF PEG Peg(Middle) TO ON TOP OF Disk(4).
ACTION: MOVE Disk(2) WHICH IS BOTTOM OF PEG Peg(Middle) TO ON TOP OF Disk(3).
ACTION: MOVE Disk(2) WHICH IS BOTTOM OF PEG Peg(Middle) TO ON TOP OF Disk(4).
ACTION: MOVE Disk(3) WHICH IS BOTTOM OF PEG Peg(Middle) TO ON TOP OF Disk(4).
ACTION: MOVE Disk(1) WHICH IS BOTTOM OF PEG Peg(Left) TO ON TOP OF Disk(2).
ACTION: MOVE Disk(1) WHICH IS BOTTOM OF PEG Peg(Left) TO ON TOP OF Disk(3).
ACTION: MOVE Disk(1) WHICH IS BOTTOM OF PEG Peg(Left) TO ON TOP OF Disk(4).
ACTION: MOVE Disk(2) WHICH IS BOTTOM OF PEG Peg(Left) TO ON TOP OF Disk(3).
ACTION: MOVE Disk(2) WHICH IS BOTTOM OF PEG Peg(Left) TO ON TOP OF Disk(4).
ACTION: MOVE Disk(3) WHICH IS BOTTOM OF PEG Peg(Left) TO ON TOP OF Disk(4).

GO!

SOLUTION FOUND:
  1  [3]  ACTION: MOVE Disk(1) WHICH IS ON Disk(2) TO EMPTY PEG Peg(Right).
  2  [5]  ACTION: MOVE Disk(2) WHICH IS ON Disk(3) TO EMPTY PEG Peg(Middle).
  3  [8]  ACTION: MOVE Disk(1) WHICH IS BOTTOM OF PEG Peg(Right) TO ON TOP OF Di
sk(2).
  4  [12]  ACTION: MOVE Disk(3) WHICH IS ON Disk(4) TO EMPTY PEG Peg(Right).
  5  [19]  ACTION: MOVE Disk(1) WHICH IS ON Disk(2) TO ON TOP OF Disk(4).
  6  [27]  ACTION: MOVE Disk(2) WHICH IS BOTTOM OF PEG Peg(Middle) TO ON TOP OF
Disk(3).
  7  [41]  ACTION: MOVE Disk(1) WHICH IS ON Disk(4) TO ON TOP OF Disk(2).
  8  [56]  ACTION: MOVE BOTTOM DISK Disk(4) FROM PEG Peg(Left) TO EMPTY PEG Peg(
Middle).
  9  [81]  ACTION: MOVE Disk(1) WHICH IS ON Disk(2) TO ON TOP OF Disk(4).
  10  [109]  ACTION: MOVE Disk(2) WHICH IS ON Disk(3) TO EMPTY PEG Peg(Left).
  11  [158]  ACTION: MOVE Disk(1) WHICH IS ON Disk(4) TO ON TOP OF Disk(2).
  12  [214]  ACTION: MOVE Disk(3) WHICH IS BOTTOM OF PEG Peg(Right) TO ON TOP OF
 Disk(4).
  13  [312]  ACTION: MOVE Disk(1) WHICH IS ON Disk(2) TO EMPTY PEG Peg(Right).
  14  [423]  ACTION: MOVE Disk(2) WHICH IS BOTTOM OF PEG Peg(Left) TO ON TOP OF
Disk(3).
  15  [617]  ACTION: MOVE Disk(1) WHICH IS BOTTOM OF PEG Peg(Right) TO ON TOP OF
 Disk(2).

LastDiskMoved(Disk(1)) /\ Smaller(Disk(1), Disk(2)) /\ Smaller(Disk(1), Disk(3))
 /\ Smaller(Disk(1), Disk(4)) /\ Smaller(Disk(2), Disk(3)) /\ Smaller(Disk(2), D
isk(4)) /\ Smaller(Disk(3), Disk(4)) /\ OnTop(Disk(1)) /\ OnBottom(Disk(4)) /\ O
nPeg(Disk(4), Peg(Middle)) /\ OnDisk(Disk(3), Disk(4)) /\ IsClear(Peg(Left)) /\
OnDisk(Disk(2), Disk(3)) /\ IsClear(Peg(Right)) /\ OnDisk(Disk(1), Disk(2)).


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  2 Blocks (in-class example, A/B/C)
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  Q Quit
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Choice? 2

STARTING STATE:
On(Block(B), Table) /\ On(Block(A), Table) /\ On(Block(C), Block(A)) /\ Clear(Bl
ock(B)) /\ Clear(Block(C)).

GOAL STATE:
On(Block(A), Block(B)) /\ On(Block(B), Block(C)) /\ On(Block(C), Table) /\ Clear
(Block(A)).

DEFINED ACTIONS:
ACTION: MOVE Block(A) FROM Block(B) TO Table.
ACTION: MOVE Block(A) FROM Block(C) TO Table.
ACTION: MOVE Block(B) FROM Block(A) TO Table.
ACTION: MOVE Block(B) FROM Block(C) TO Table.
ACTION: MOVE Block(C) FROM Block(A) TO Table.
ACTION: MOVE Block(C) FROM Block(B) TO Table.
ACTION: MOVE Block(A) FROM Table TO Block(B).
ACTION: MOVE Block(A) FROM Table TO Block(C).
ACTION: MOVE Block(B) FROM Table TO Block(A).
ACTION: MOVE Block(B) FROM Table TO Block(C).
ACTION: MOVE Block(C) FROM Table TO Block(A).
ACTION: MOVE Block(C) FROM Table TO Block(B).

GO!

SOLUTION FOUND:
  1  [831]  ACTION: MOVE Block(C) FROM Block(A) TO Table.
  2  [836]  ACTION: MOVE Block(B) FROM Table TO Block(C).
  3  [847]  ACTION: MOVE Block(A) FROM Table TO Block(B).

On(Block(C), Table) /\ Clear(Block(A)) /\ On(Block(B), Block(C)) /\ On(Block(A),
 Block(B)).


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  Q Quit

Choice? 3

STARTING STATE:
In(Robot(Robbie), Room(1)) /\ isClean(Room(1)) /\ isDirty(Room(2)).

GOAL STATE:
isClean(Room(1)) /\ isClean(Room(2)).

DEFINED ACTIONS:
ACTION: MOVE Robot(Robbie) FROM Room(1) TO Room(2).
ACTION: MOVE Robot(Robbie) FROM Room(2) TO Room(1).
ACTION: CLEAN Robot(Robbie) ROOM Room(1).
ACTION: CLEAN Robot(Robbie) ROOM Room(2).

GO!

SOLUTION FOUND:
  1  [882]  ACTION: MOVE Robot(Robbie) FROM Room(1) TO Room(2).
  2  [884]  ACTION: CLEAN Robot(Robbie) ROOM Room(2).

isClean(Room(1)) /\ In(Robot(Robbie), Room(2)) /\ isClean(Room(2)).


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  3 Vaccum Robot (1 robot, 1 clean room, 1 dirty room)
  4 Smart Bird (adapted from YouTube video)
  Q Quit

Choice? 4

STARTING STATE:
In(Empty, Beak) /\ In(Rope, Perch) /\ In(Stick(Short), Rope) /\ In(Stone(1), Box
(1)) /\ In(Stone(2), Box(2)) /\ In(Stone(3), Box(3)) /\ In(Stick(Long), Box(4))
/\ In(Treat, Box(5)).

GOAL STATE:
In(Treat, Beak).

DEFINED ACTIONS:
ACTION: GET Stone(1) FROM Box(1).
ACTION: GET Stone(2) FROM Box(2).
ACTION: GET Stone(3) FROM Box(3).
ACTION: PLACE Stone(1) IN Box(4).
ACTION: PLACE Stone(2) IN Box(4).
ACTION: PLACE Stone(3) IN Box(4).
ACTION: GET Stick(Short) FROM Rope.
ACTION: GET Stick(Long) FROM Box(4).
ACTION: GET Treat FROM Box(5).
ACTION: PLACE Stone(1) ON Table.
ACTION: PLACE Stone(2) ON Table.
ACTION: PLACE Stone(3) ON Table.
ACTION: PLACE Stick(Short) ON Table.
ACTION: PLACE Stick(Long) ON Table.
ACTION: PICKUP Stone(1) FROM Table.
ACTION: PICKUP Stone(2) FROM Table.
ACTION: PICKUP Stone(3) FROM Table.
ACTION: PICKUP Stick(Short) FROM Table.
ACTION: PICKUP Stick(Long) FROM Table.
ACTION: PICKUP Treat FROM Table.

GO!

SOLUTION FOUND:
  1  [887]  ACTION: GET Stick(Short) FROM Rope.
  2  [888]  ACTION: GET Stone(1) FROM Box(1).
  3  [892]  ACTION: GET Stone(2) FROM Box(2).
  4  [902]  ACTION: GET Stone(3) FROM Box(3).
  5  [924]  ACTION: PLACE Stick(Short) ON Table.
  6  [973]  ACTION: PICKUP Stone(1) FROM Table.
  7  [1082]  ACTION: PLACE Stone(1) IN Box(4).
  8  [1320]  ACTION: PICKUP Stone(2) FROM Table.
  9  [1888]  ACTION: PLACE Stone(2) IN Box(4).
  10  [3029]  ACTION: PICKUP Stone(3) FROM Table.
  11  [5922]  ACTION: PLACE Stone(3) IN Box(4).
  12  [11332]  ACTION: GET Stick(Long) FROM Box(4).
  13  [25551]  ACTION: PICKUP Stick(Long) FROM Table.
  14  [50902]  ACTION: GET Treat FROM Box(5).
  15  [118506]  ACTION: PLACE Stick(Long) ON Table.
  16  [235663]  ACTION: PICKUP Treat FROM Table.

In(Rope, Perch) /\ In(Stick(Short), Table) /\ In(Stone(1), Box(4)) /\ In(Stone(2
), Box(4)) /\ In(Stone(3), Box(4)) /\ In(Stick(Long), Table) /\ In(Treat, Beak).



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  Q Quit

Choice? q
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Good bye.

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(BQ-02/22/2014)
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