AI23231-PRINCIPLES OF ARTIFICIAL INTELLIGENCE LAB

Name : Vijay Antony.l

Roll no : 241801311

Ex no : 09

Ex name : IMPLEMENTATION OF BLOCKS WORLD PROGRAM

Date : 18/05/2025

PROBLEM:

```
class BlocksWorld:
def __init__(self):
self.state = {
"A": "B", # A is on B
"B": "table", # B is on table
"C": "table" # C is on table
}
self.goal = {
"A": "B",
"B": "C",
"C": "table"
}

def is_goal_state(self):
return self.state == self.goal
def move(self, block, destination):
if block in self.state and self.state[block] != destination:
```

```
print(f"Moving {block} from {self.state[block]} to {destination}")
self.state[block] = destination
def plan_moves(self):
print("\nInitial State:", self.state)
while not self.is_goal_state():
for block, target in self.goal.items():
if self.state[block] != target:
self.move(block, target)

print("\nFinal Goal State Reached:", self.state)
# Run the Blocks World Solver
bw = BlocksWorld()
bw.plan_moves()
```

OUTPUT:

```
Initial State: {'A': 'B', 'B': 'table', 'C': 'table'}
No valid moves available! Cannot reach goal.

Final State: {'A': 'B', 'B': 'table', 'C': 'table'}

=== Code Execution Successful ===
```