

AI - Lab - Test ①

Jugs Problem.

```
def search (start node, jugs, goal amount, check_dict, is_depth):  
if  
    goal = []  
    accomplished = False  
    q = collections.deque()  
    q.appendleft (starting node).  
    while len(q) != 0:  
        path = q.popleft()  
        check_dict [get_index (path [-1])] = True.  
        if len (path) >= 2:  
            print (transition (path [-2], path [-1], jugs)  
                  path [-1])  
        if isgoal (path, goal - amount):  
            accomplished = True  
            goal = path.  
            break.  
        next_moves = next_transitions (jugs, path, check_dict)  
        for i in next_moves:  
            if is_depth:  
                q.appendleft (i)  
            else  
                q.append (i)
```

```
if accomplished:  
    print ("The goal is achieved")  
else  
    print ("Problem cannot be solved")
```

Starting node \rightarrow list of two integers \rightarrow initial state of jugs.
jugs \rightarrow volume of jugs.
goal amount \rightarrow desired amount.
check-dict \rightarrow a dictionary storing visited nodes.