

MID

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ID: 201714018

Dept: CSE-17

Sec : B

CSE-403

Ans. to the ques. no. - 1(a)

Defining the preconditions and effects for the given actions are given below:

(i) STACK (X, Y):

Precondition:

HOLDING(X) ~~ON TABLE~~ AND CLEAR(Y) AND ~~ON(X, Y)~~
ON TABLE(Y)

Effect:

ON(X, Y) AND CLEAR(X) AND ON TABLE(Y)
AND ARM EMPTY.

(ii) UNSTACK (X, Y):

Precondition:

ON(X, Y) AND CLEAR(X) AND ON TABLE(Y)
AND ARM EMPTY

Effect:

HOLDING(X) ~~ON TABLE(X)~~ AND ON TABLE(Y) AND
~~CLEAR(X)~~ AND CLEAR(Y) AND /

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(iii) PICKUP (X) :

Pre condition :

CLEAR (X) AND ARM EMPTY ~~AND ONTABLE (X)~~

EFFECT :

HOLDING (X)

(iv) PUT DOWN (X) :

Pre conditions

HOLDING (X)

Effect :

ARM EMPTY AND ONTABLE (X)
AND CLEAR (X)

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Ams to the ques. no. - 01(b)

Initial state :

ON(B,A) AND ON(C,B) AND ONTABLE(A)
AND ARMEMPTY AND CLEAR(C)

Goal state :

ON(B,C) AND ON(A,B) AND ONTABLE(C)
AND CLEAR(A) ~~AND ARMEMPTY?~~

A PLAN :

- ① UNSTACK(C,B) AND
 - ② PUT DOWN(C) AND
 - ③ UNSTACK(B,A) AND
 - ④ PUT DOWN(B) AND
 - ⑤ PICK UP(B) AND
 - ⑥ STACK(B,C) AND
 - ⑦ PICK UP(A) AND
 - ⑧ STACK(A,B) AND
 - ⑨ CLEAR(A) AND ONTABLE(C)
- (3)