TASK 2

INITIAL STATE

(on_left a1)
(on_left a2)
(on_left c1)
(on_left c2)
(on_left b)
(isadult a1)
(isadult a2)
(ischild c1)
(ischild c2)
(isboat b)

Goal State

(on_right a1)
(on_right a2)
(on_right c1)
(on_right c2)

SYMATICS

(on_left X) : X is on the left
(on_right x) : x is on the right
(isadult x) : x is an adult
(ischild x) : x is a child
(isboat x) : x is a boat

Action: OneGoRight(x, y)
Precond: (onleft x), (onleft y), (isboat y)
Effect: ¬(onleft x), ¬(onleft y), (onright x),
(onright y)

Action: OneGoLeft(x, y)
Precond: (onright x), (onright y), (isboat y)
Effect: ¬(on_right x), ¬(on_right y), (onleft x),
(on_left y)

Action: TwoGoRight(x, y, z)
Precond: (on_left x), (on_left y), (on_left z),
(ischild x), (ischild y), (isboat z)
Effect: ¬(on_left x), ¬(on_left y), ¬(on_left z)
(on_right x), (on_right y), (on_right z)

Action: Two Go Left (x, y, z)

Precond: (on_right x), (on_right y), (on_right z),
(ischild x), (ischild y), (isboat z)

Effects: ¬(on_right x), ¬(on_right y), ¬(on_right z)
(on_left x), (on_left y), (on_left z)

TASK 3

aaa(B,c).

Preconditions are:

(ppp1 B c), (ppp2 B), (ppp3 c)

So action can be applied.

New state after application:

(A +++ 1)
(B +++ 1)
(c +++ 1)
(ppp1 B c)
(ppp2 A)
(ppp2 B)
(ppp3 c)
(ppp1 A c)