Assignment-1   (9-1-2021)

Q.1) Missionaries & Cannibals.

Solution:

State : Configuration of missionaries (M) & cannibals (c)
and boat on each side of river.

Successor
  function.: Move boat containing some set of
            occupants across the river (in either
         direction) to the other side.

goal : Move all the missionaries and cannibals
       accross the river.

•% (Missionaries can never be outnumbered by cannibals
   on either side of river) or else th

to	Left Side.		Right Side.
0) Initial	MMM CC C (B).		— — —
1) 2 (c) cross river	MMM C.		C C (B)
2) 1 (c) return	MMMcc (B)		C
3) 2(c) go back	MMM		CCC(B).
4) 1 (c) return	MMMc (B)		C.C.
5) 2 (M) cross	Mc		MMCC(B).
6) 1 (M) & 1(c) return	MMCC (B).		MC.
7) 2(M) cross	CC (B)		MMMC(B)
8) 1 (c) returns	CCC (B).		MMM
9) 2(c) cross	C		MMM CC(B)
10). 1(c) return	CC (B)		MMMC(B)
11) goal state	—		MMM CC C(B).

Q2) **Initial State** : No regions coloured.

Successor function : Assign a color to an uncoloured region. &

the previously uncoloured region has an an assigned colour.

Goal Test : All regions are colored, & no two adjacent regions have the same colour.

Cost function : No. of assignments (areas).

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