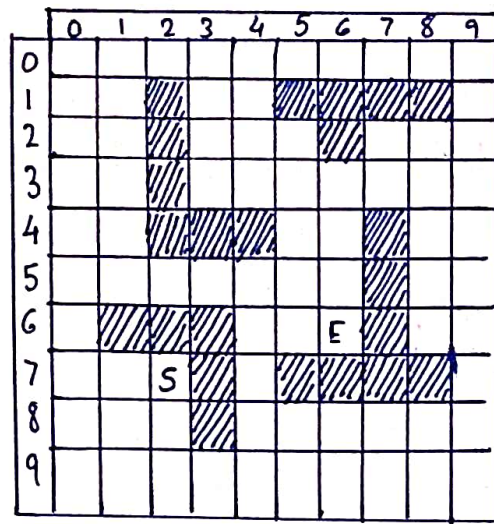


# Artificial Intelligence - Lab Assignment 4



Start node : (7,2)

Goal node : (6,6)

UCS: Open List	N	Closed List	GT	Successor <del>Goal</del> TRAIL	Current Searching Path
{(7,2), 0}	(7,2)	[(7,2)]	F	{[(8,2), 1], [(7,1), 1]}	{(7,2), 0}
{[(8,2), 1], [(7,1), 1]}	(8,2)	[(7,2), (8,2)]	F	{[(9,2), 2], [(8,1), 2]}	{(7,2), 0, (8,1), 2}
{[(7,1), 1], [(9,2), 2], [(8,1), 2]}	(7,1)	[(7,2), (8,2), (7,1)]	F	{[(8,1), 2], [(7,0), 2]}	{(7,2), 0, (7,1), 1}
{[(9,2), 2], [(8,1), 2], [(7,0), 2]}	(9,2)	[(7,2), (8,2), (7,1), (9,2)]	F	{[(9,1), 3], [(9,3), 3]}	{(7,2), 0, (8,1), 2, (9,2), 2}
{[(8,1), 2], [(7,0), 2], [(9,1), 3], [(9,3), 3]}	(8,1)	[-11-, (8,1)]	F	{[(9,1), 3], [(8,0), 3]}	{(7,2), 0, (7,1), 1, (8,1), 2}
{[(7,0), 2], [(9,1), 3], [(9,3), 3], [(8,0), 3]}	(7,0)	[-11-, (7,0)]	F	{[(6,0), 3], [(8,0), 3]}	{(7,2), 0, (7,1), 1, (7,0), 2}
{[(9,1), 3], [(9,3), 3], [(8,0), 3], [(6,0), 3]}	(9,1)	[-11-, (9,1)]	F	{[(9,0), 4]}	{(7,2), 0, (7,1), 1, (8,1), 2, (9,1), 3}

<u>Open List</u>	<u>N</u>	<u>Closed List</u>	<u>GT</u>	<u>Successor</u>	<u>Path</u>
$\{(9,3,3), (8,0,3), (6,0,3), (9,0,4)\}$	$(9,3)$	$[- \text{---} , (9,3)]$	F	$\{(9,4,4)\}$	$\{(8,0,3), (6,0,3), (9,0,4), (9,4,4)\}$
$\{(8,0,3), (6,0,3), (9,0,4), (9,4,4)\}$	$(8,0)$	$[- \text{---} , (8,0)]$	F	$\{(9,0,4)\}$	$\{(7,2,0), (7,1,1), (7,0,2), (8,0,3)\}$
$\{(6,0,3), (9,0,4), (9,4,4)\}$	$(6,0)$	$[- \text{---} , (6,0)]$	F	$\{(5,0,4)\}$	$\{(7,2,0), (7,1,1), (7,0,2), (6,0,3)\}$
$\{(9,0,4), (9,4,4), (5,0,4)\}$	$(9,0)$	$[- \text{---} , (9,0)]$	F	$\{ \}$	$\{(7,2,0), (7,1,1), (7,0,2), (8,0,3), (9,0,4)\}$
$\{(9,4,4), (5,0,4)\}$	$(9,4)$	$[- \text{---} , (9,4)]$	F	$\{(8,4,5), (9,5,5)\}$	$\{(7,2,0), (8,2,1), (9,2,2), (9,3,3), (9,4,4)\}$
$\{(5,0,4), (8,4,5), (9,5,5)\}$	$(5,0)$	$[- \text{---} , (5,0)]$	F	$\{(4,0,5), (5,1,5)\}$	$\{(7,2,0), (7,1,1), (7,0,2), (6,0,3), (5,0,4)\}$
$\{(8,4,5), (9,5,5), (4,0,5), (5,1,5)\}$	$(8,4)$	$[- \text{---} , (8,4)]$	T	—	$\{(7,2,0), (8,2,1), (9,2,2), (9,3,3), (9,4,4), (8,4,5)\}$

For Best first search:

Same path and table for BEFS.

~~Same~~

For A-Star:

Same path and table for A-star

Cost = 5 for all