

**Computer Science and Engineering Department**

**Artificial Intelligence (UCS-411)**

**Lab Assignment-2**

1	<p>Write a code in python for the 8 puzzle problem by taking the following initial and final states</p> <div><div><p>Initial State</p><table><tr><td>1</td><td>2</td><td>3</td></tr><tr><td>8</td><td></td><td>4</td></tr><tr><td>7</td><td>6</td><td>5</td></tr></table></div><div><p>Goal State</p><table><tr><td>2</td><td>8</td><td>1</td></tr><tr><td></td><td>4</td><td>3</td></tr><tr><td>7</td><td>6</td><td>5</td></tr></table></div></div>	1	2	3	8		4	7	6	5	2	8	1		4	3	7	6	5
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8		4																	
7	6	5																	
2	8	1																	
	4	3																	
7	6	5																	
2	<p>Given two jugs- a 4 liter and 3 liter capacity. Neither has any measurable markers on it. There is a pump which can be used to fill the jugs with water. Simulate the procedure in Python to get exactly 2 liter of water into 4-liter jug</p>																		
3	<p>Write a Python program to implement Travelling Salesman Problem (TSP). Take the starting node from the user at run time.</p> 																		