a)

|  |  |  |
| --- | --- | --- |
| 2 | 3 |  |
| 1 | 8 | 4 |
| 7 | 6 | 5 |

|  |  |  |
| --- | --- | --- |
| 2 |  | 3 |
| 1 | 8 | 4 |
| 7 | 6 | 5 |

|  |  |  |
| --- | --- | --- |
| 1 | 2 | 3 |
|  | 8 | 4 |
| 7 | 6 | 5 |

|  |  |  |
| --- | --- | --- |
|  | 2 | 3 |
| 1 | 8 | 4 |
| 7 | 6 | 5 |

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|  |  |  |
| --- | --- | --- |
| 1 | 2 | 3 |
| 8 |  | 4 |
| 7 | 6 | 5 |

reached in 4 actions / 5 states, terminates at global minima.

|  |  |  |
| --- | --- | --- |
|  | 2 | 3 |
| 1 | 7 | 4 |
| 8 | 6 | 5 |

|  |  |  |
| --- | --- | --- |
| 1 | 2 | 3 |
| 8 | 7 | 4 |
|  | 6 | 5 |

b)

|  |  |  |
| --- | --- | --- |
| 2 | 3 |  |
| 1 | 7 | 4 |
| 8 | 6 | 5 |

|  |  |  |
| --- | --- | --- |
| 2 |  | 3 |
| 1 | 7 | 4 |
| 8 | 6 | 5 |

|  |  |  |
| --- | --- | --- |
| 1 | 2 | 3 |
|  | 7 | 4 |
| 8 | 6 | 5 |

reached in 4 actions / 5 states and it does not terminate

Final state of termination is a local minimum.

It will always oscillate between 1 misplaced tilew once local minimum is reached as nothing better.

5th action is where we check to terminate as no less than 2 misplaced tiles can be found.