INPUTS AND OUTPUTS

NOTE: All inputs are fed keeping in mind that matrix is 4X4 matrix and indexing starts from 0. Matrix of higher order can also be used by doing slight changes in the code. So for NXN matrix domain set becomes {0, 1, 2, ..., N-1}

CASE-1: Neither Poset nor Lattice

Input- (0,0), (1,1), (2,2), (3,3), (0,1), (1,0), (0,2), (0,3), (1,2), (1,3), (3,1), (2,3)

▶ Windows Powershell

```
PS D:\NSUT Work\Discrete Structures> .\Assignment.exe
Enter the number of ordered pairs:12
Enter the elements of ordered pair:0 0
Enter the elements of ordered pair:1 1
Enter the elements of ordered pair:2 2
Enter the elements of ordered pair:3 3
Enter the elements of ordered pair:0 1
Enter the elements of ordered pair:1 0
Enter the elements of ordered pair:0 2
Enter the elements of ordered pair:0 3
Enter the elements of ordered pair:1 2
Enter the elements of ordered pair:1 3
Enter the elements of ordered pair:3 1
Enter the elements of ordered pair:2 3
The relation is Reflexive!
The realtion is NOT AntiSymmetric!
The relation is NOT Transitive!
The set is neither POSET nor LATTICE!
PS D:\NSUT Work\Discrete Structures>
```

CASE-2: Poset but not Lattice

Input- (0,0), (1,1), (2,2), (3,3)

Windows Powershell

```
PS D:\NSUT Work\Discrete Structures> .\Assignment.exe
Enter the number of ordered pairs:4
Enter the elements of ordered pair:0 0
Enter the elements of ordered pair:1 1
Enter the elements of ordered pair:2 2
Enter the elements of ordered pair:3 3
The relation is Reflexive!
The relation is AntiSymmetric!
The relation is Transitive!
The set is a POSET!
The given poset is NOT A LATTICE!
PS D:\NSUT Work\Discrete Structures>
```

CASE-3: Lattice

Input- (0,0), (1,1), (2,2), (3,3), (0,1), (0,2), (0,3), (1,2), (1,3), (2,3)

Windows Powershell

```
PS D:\NSUT Work\Discrete Structures> .\Assignment.exe
Enter the number of ordered pairs:10
Enter the elements of ordered pair:0 0
Enter the elements of ordered pair:1 1
Enter the elements of ordered pair:2 2
Enter the elements of ordered pair:3 3
Enter the elements of ordered pair:0 1
Enter the elements of ordered pair:0 2
Enter the elements of ordered pair:0 3
Enter the elements of ordered pair:1 2
Enter the elements of ordered pair:1 3
Enter the elements of ordered pair:2 3
The relation is Reflexive!
The relation is AntiSymmetric!
The relation is Transitive!
The set is a POSET!
The given poset is LATTICE
PS D:\NSUT Work\Discrete Structures>
```

CASE-4: Random Input

Input- (0,0), (1,1), (2,2), (3,3), (0,1), (0,2), (0,3), (1,2), (1,3), (2,3), (3,2), (3,1), (2,1), (3,0), (2,0)

Windows Powershell

```
PS D:\NSUT Work\Discrete Structures> .\Assignment.exe
Enter the number of ordered pairs:15
Enter the elements of ordered pair:0 0
Enter the elements of ordered pair:1 1
Enter the elements of ordered pair:2 2
Enter the elements of ordered pair:3 3
Enter the elements of ordered pair:0 1
Enter the elements of ordered pair:0 2
Enter the elements of ordered pair:0 3
Enter the elements of ordered pair:1 2
Enter the elements of ordered pair:1 3
Enter the elements of ordered pair:2 3
Enter the elements of ordered pair:3 2
Enter the elements of ordered pair:3 1
Enter the elements of ordered pair:2 1
Enter the elements of ordered pair:3 0
Enter the elements of ordered pair:2 0
The relation is Reflexive!
The realtion is NOT AntiSymmetric!
The relation is Transitive!
The set is neither POSET nor LATTICE!
PS D:\NSUT Work\Discrete Structures>
```

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