3. Implement transitive closure using Warshalls algorithm for the given directed graph.

```
import java.util.Scanner;
public class Warshal {
	static int a[][];
	static int n;

	public static void main(String args[])
	{
		System.out.println("Enter the number of vertices\n");
		Scanner scanner = new Scanner(System.in);
		n = scanner.nextInt();
		a = new int[n][n];
		System.out.println("Enter the Cost Matrix (0's and 1's) \n");
		for (int i = 0; i < n; i++)
		{
			for (int j = 0; j < n; j++)
			{
				a[i][j] = scanner.nextInt();
			}
		}
		getClosure();
		PrintMatrix();
		scanner.close();
	}

	public static void getClosure()
	{
		for (int k = 0; k < n; k++)
		{
			for (int i = 0; i < n; i++)
				for (int j = 0; j < n; j++)
					if(a[i][j]==1 || (a[i][k]==1 && a[k][j]==1))
						a[i][j]=1;
		}
	}

	public static void PrintMatrix()
	{
		System.out.println("Transitive Closure:\n");
		for(int i=0; i<n; i++)
		{
			for(int j=0; j<n; j++)
				System.out.print(a[i][j] +" ");
			System.out.println();
		}
	}
}
```

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