THE FRENCH CONNECTION

There is a train depot in each of the following cities in France: Paris, Marseilles, Fountainbleu, Nice, Cannes, Versailles, Orleans, Bayonne, Lyon and LeMans. Each train depot must have a direct line of communication to each of the other depots.

How many direct lines are there between the depots in these ten cities?

If a communication system is to be constructed between 100 cities, how many direct lines will be needed?

How many direct lines will be needed for any number of cities?

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Cities	Lines
2	1
3	3
4	6
5	10
X	X(X-1)/2

5 Cities: 4+3+2+1

Same problem as the sum 1+2+3 ..

24