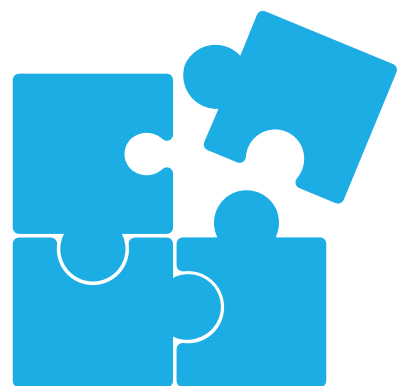




School of
Computer
Science



Dynamic programming

ALGORITHMICS

Vicente García Díaz
garciavicente@uniovi.es

Roads in a city

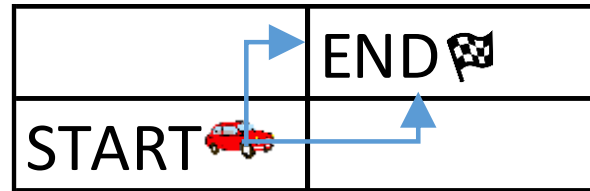


- Suppose we are in a city whose structure is rectangular and we want to know how many possibilities we have to go from one point to another of the city
- We will consider the following constraints:
 - We are in a position southwest of the city and want to go to a position to the northeast of this city
 - As we are in a hurry, we always go through the streets to the north (top) or to the east (right)
 - It is possible that we encounter obstacles (barriers) that do not allow us to go through that street

Example 1



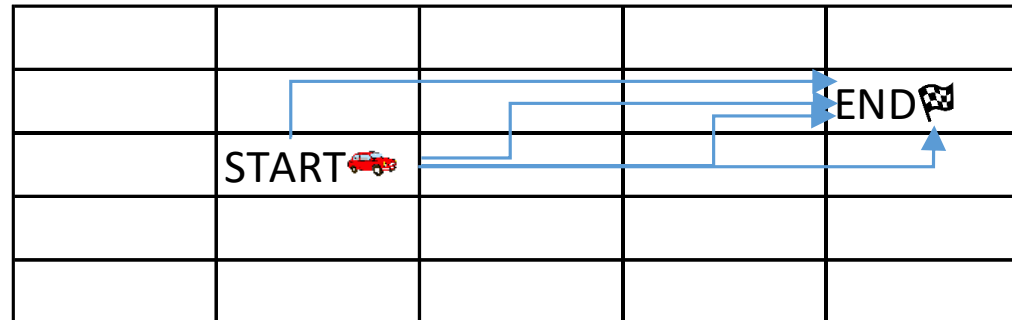
➤ Result = 2



Example 2



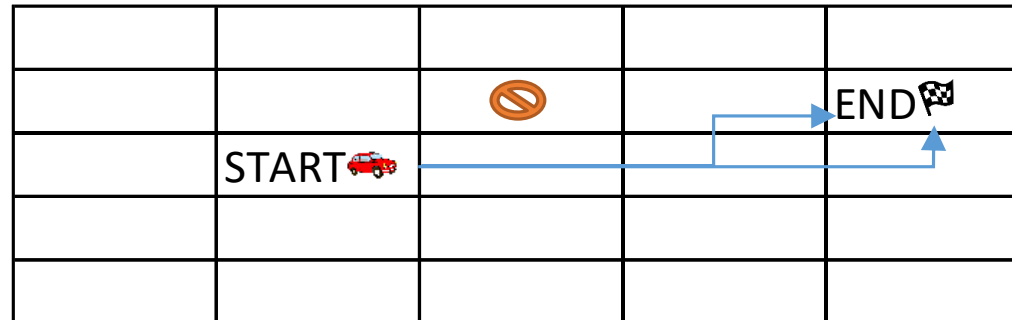
➤ Result = 4



Example 3



➤ Result = 2



Example 4



➤ Result = -1

				START 🚗
			END 🏁	

checkPositions()?
markAdjacentPositions()?
calculateNumberOfPaths()?