

## Your Task

Martin is a fan of the visiting sports team and has read about the parking situation in the newspaper. He would like to start renting out parking space at his house in his own hometown on game days. Martin knows that his own lawn is rectangle shaped. However, he is not sure how to make the most of the space that he has. He wants to be able to park as many cars as possible in his space but still have enough room for cars to get out when the game is over. This means that the cars must be parked so that every car can get out at any given time. Also, there will need to be enough space between the cars for people to open the doors and get out safely.

He also needs to account for the different sizes of vehicles that might be parked on his lawn. Martin thinks there are 4 kinds of cars that could park on his lawn. He has measured his own car, a 4-door sedan and his roommates' cars, an SUV, a compact and a mini van. He has provided you with the outlines of the four cars, which are drawn to scale 1:100. Martin has provided you with a diagram of his lawn.

Martin needs your help to decide how to park the cars on his lawn. When you finish, you must give Martin a written plan of how many cars he can fit on his lawn and how they fit. Martin has some friends who are also interested in renting out their lawn space, so your plan needs to include information on how he can explain your system to his friends so that they can have parking in their own lawns.

