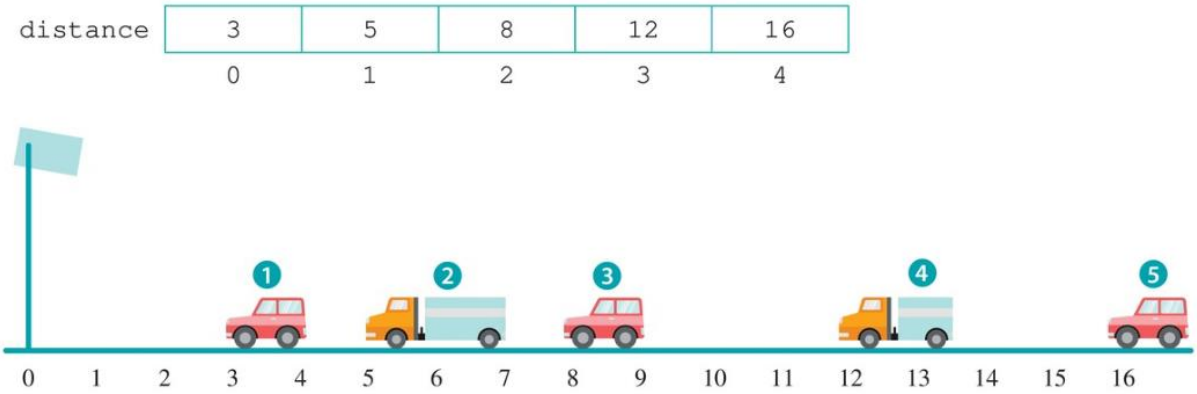
Beginner (Level I) – Q4

On a highway, there is a camera that takes photographs of the road conditions and saves the distance between (the front of) each car and saves it in the list `distance`. `distance[0]` stores the distance from the car closest to the camera, so this car is called the first car, and so on.

There are a total of five cars on the highway now. The list `distance` is as follows:



The distance between the third car and the fourth car (measured by the front of each car):

```
P[3] - P[2] = 12 - 8 = 4
```

Write a Python program to find the car with the shortest distance from the car in front. In your program there are parts to

i. calculate the distances between cars and store them in the list `space`;
ii. find the car with the shortest distance from the car in front;
iii. output a warning for all the tailgating (跟車太貼) cars, where a car is tailgating when its distance from the car in front is smaller than 3 as follows:

```
Warning:
Car 2
```

(**Challenge**) Rewrite the Python program the distance from the car in front ***should be measured from the rear of that car***. Assume that the list `distance_back` stores the distance between the rear of each car and the camera:

distance_back	4	7	9	13.5	17
	0	1	2	3	4

The following is the output after the program has been updated:

```
Warning:
Car 2
Car 3
Car 5
```