

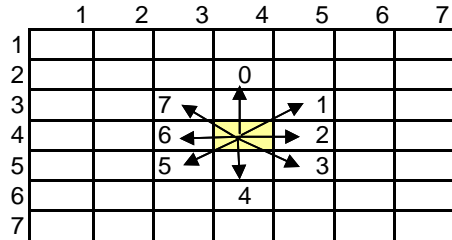
MODELING AND SIMULATION

Final Assignment

Due Date: Feb 3, 2006

(Gatot F. Hertono)

Case: A model is designed to simulate the behaviour of tornado in specific area as follows:



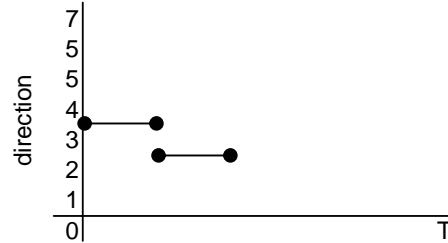
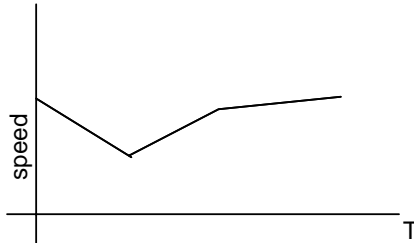
- A tornado is detected start at region (4,4) (the shaded area).
- after t time, the tornado can move to any direction (coded between 0 to 7)
- the speed of tornado at certain region should be observed with the following status:
 - < 10 km/h - green
 - 10 to 30 km/h - yellow
 - > 30 km/h - red

Task: - Simulate the above conditions and record it in the table below:

Example:

Δt	T	origin		destination		
		pos	direction	pos	speed	status
23	0	(4,4)	3	(5,4)	43	red
15	23	(5,4)	2	(5,6)	30	yellow
...	38
...

- Plot the result after 10 Δt with the following information:



Hint: - create a random number to simulate Δt , direction and speed
 - the random number for direction is between 0 to 7 (integer)

Good Luck !