

# Problem Set 01

## The Restaurant Decision

### Problem:

Decide whether to wait for a table at a restaurant, based on the following attributes:

1. Choice: is there an alternative restaurant nearby?
2. Bar: is there a comfortable bar area to wait in?
3. Day: is today Friday or Saturday?
4. Hungry: are we hungry?
5. Patron: how many people are in the restaurant?
6. Price: what's the price range?
7. Rain: is it raining outside?
8. Booking: have we made a reservation?
9. Type: what kind of restaurant is it?
10. Time: what's the estimated waiting time?

Sample	Attributes										Wait
	Choice	Bar	Day	Hungry	Patron	Price	Rain	Booking	Type	Time	
S01	T	F	F	T	Some	\$\$\$	F	T	French	0	T
S02	T	F	F	T	Full	\$	F	F	Thai	40	F
S03	T	T	F	F	Some	\$	F	F	Swiss	0	T
S04	T	F	T	T	Full	\$	F	F	Thai	20	T
S05	T	F	T	F	Full	\$\$\$	F	T	French	60	F
S06	F	T	F	T	Some	\$\$	T	F	Italian	0	T
S07	F	T	F	F	None	\$	T	F	Swiss	20	F
S08	F	F	F	T	Some	\$\$	T	T	Thai	0	T
S09	F	T	T	F	Full	\$	T	F	Swiss	60	F
S10	T	T	T	T	Full	\$\$\$	F	T	Italian	20	F
S11	F	F	F	F	None	\$	F	F	Thai	0	F
S12	T	T	T	T	Full	\$	F	F	Swiss	40	T

### Tasks:

1. Solve the problem (by hand) using the simple rule (1R) approach.
2. According to your rule: How would hungry Bob decide on a rainy Monday if there is neither a bar nor an alternative restaurant nearby but some customers are in this expensive Swiss restaurant where he doesn't have to wait for a table because he did make a reservation?
3. Transform the problem into an ARFF-file & solve it using WEKA with the 1 rule.

### Hand in:

1. The hand solved 1R rule and decision
2. The ARFF-file & the WEKA result