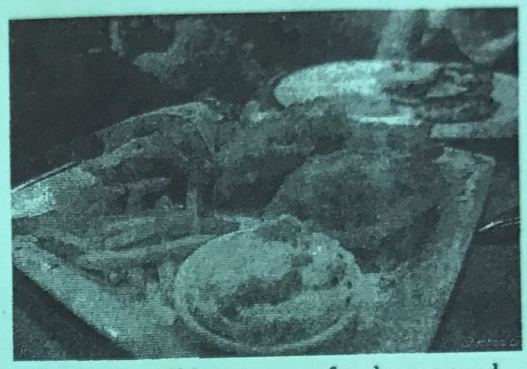

http://www.flickr.com/photos/kamalgaur/5917351893

9.5 Freddy Revisited

A Solidify Understanding Task

Once Tyrell helped Freddy out in determining the amount and type of food Freddy should prepare each day for his restaurant, Freddy's food waste decreased dramatically. Still, Freddy noticed that during the week, he seemed to still have more food prepared than he needed, and sometimes on the weekend he would run out of something he needed. Tyrell said another level of determining waste could be if Freddy averaged the number of orders he received of fish and chicken on a weekday and compared it to the average number of orders he received of each on the weekend. Freddy thought this was a good idea so started collecting data. After two months, he had enough information to create a two way table representing the average number of orders he received on the weekdays and on the weekends for fish and chicken. The data is below:

	Chicken	Fish	Total
Weekday	65	79	144
Weekend	88	107	195
Total	153	186	339

1. What observations can you make? Explain to Freddy what this means (When does Freddy seem to have the greatest business? Should he expect a greater percentage of customers to order fish during the week or on the weekend? What else?)

He has more orders on the weekend, he gets more orders of fish overall.

$P(\text{fish} \mid \text{W.day}) = \frac{79}{144} = 0.55$ 55% $P(\text{chick.} \mid \text{W.day}) = \frac{65}{144} = 0.45$ 45%

$P(\text{Fish} \mid \text{W.end}) = \frac{107}{195} = 0.55$ 55% $P(\text{chicken} \mid \text{W.end}) = \frac{88}{195} = 0.45$ 45%

2. Does the number of orders of chicken compared to fish depend on whether it is a weekday or a weekend? What values from the table tell you this?

The percentage of orders of fish or chicken is independent of the weekend or weekday.

Independent Formula's: $P(A) \cdot P(B) = P(A \cap B)$

$P(A \mid B) = P(A)$