Abstract: The rental harmony theorem (proved by Francis Su a decade ago) is quite possibly the most practically useful theorem that I have come across. Suppose that $n$ housemates are renting a house that has $n$ unequal rooms. The theorem says that under mild hypotheses, there is a way to partition the total rent into rents for the individual rooms, such that every housemate will prefer a distinct room. Furthermore, it provides an algorithm to find this harmonious partition of the rent. I will explain the theorem and its proof.