

MATH 3411 (Ng/Fall 2009)
Handout 2
October 6 - 8, 2009.

(The **immortal boinking** rabbits).

Suppose there is a species of immortal and very fertile rabbits.

A young pair of these rabbits (one of each sex) is placed on an island. The gestation period for rabbits is a month, and a pair of rabbits cannot boink and procreate until they are two months old. In other words, every month each reproducing pair will always *naturally* boink and procreate a brand new pair that will become a reproducing pair at the age of 2 months. If we start with one newborn pair of the aforementioned species of rabbits, how many pairs of rabbits will there be in the n th month?

Figure 1 gives the effect of the immortal boinking rabbits' phenomena during the first few months. (If your answer is correct, the collection of the terms forms the infamous *Fibonacci* sequence.)

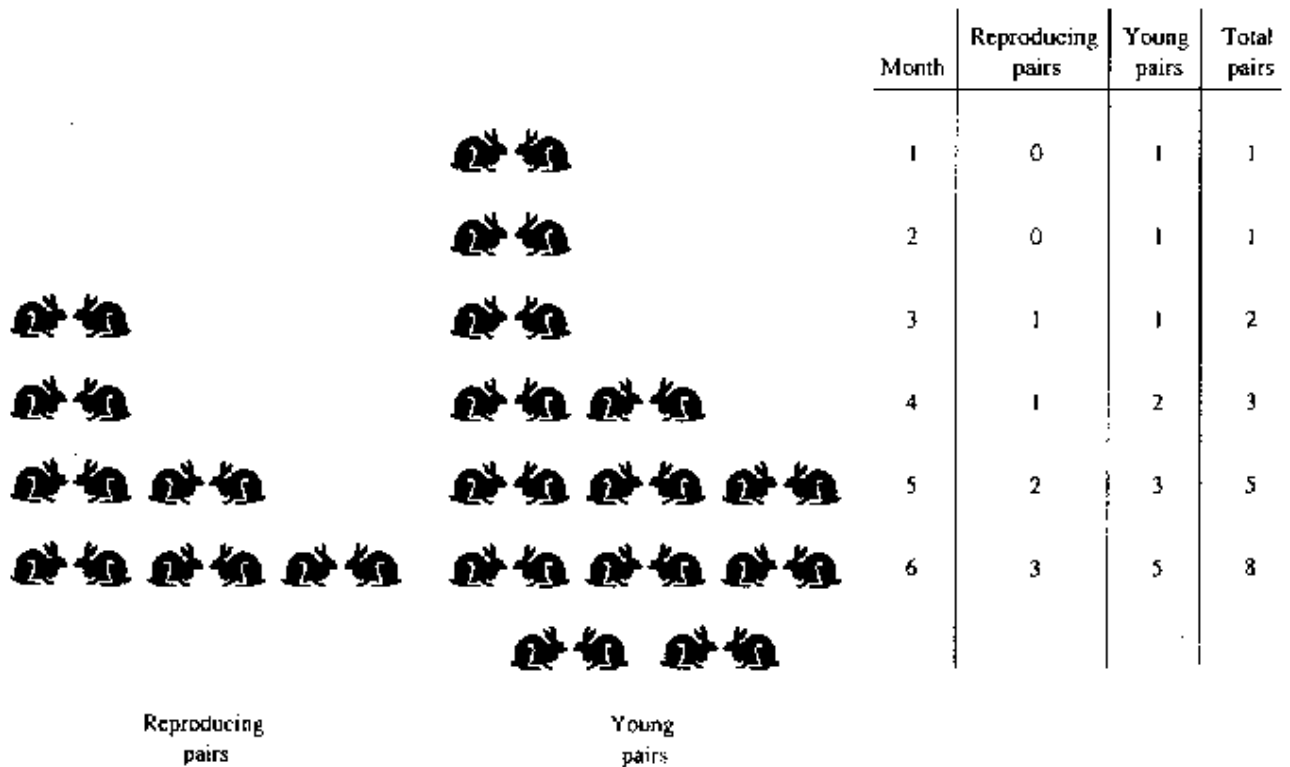


Figure 1 : Rabbits on an island