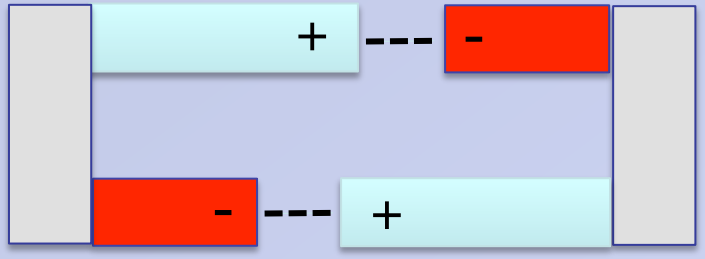
- let's suppose that a molecule has more than one region of high and low electron density



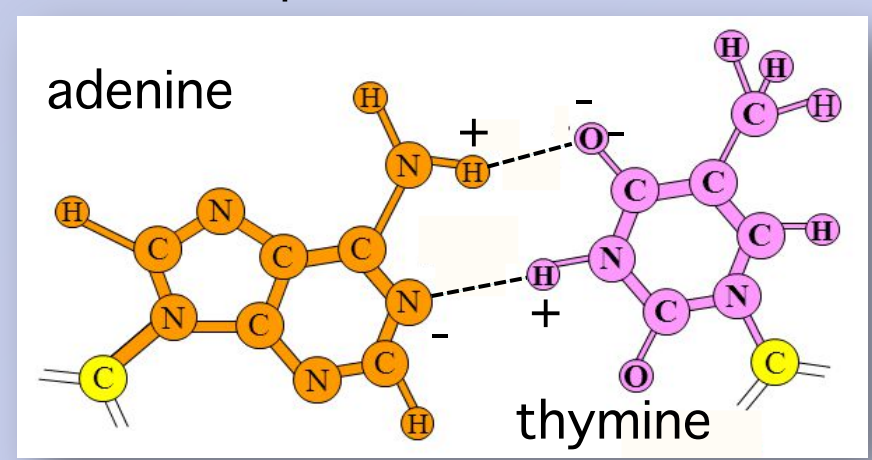
↑ this molecule will "search" for a molecule that has a region of positive and negative charge that exactly fits in it, i.e. a complementary molecule

↓

- the two interactions stabilize the system (lower its energy) and keep the molecules together

- molecules containing different and intricate regions of different electron density pair with particular complementary molecules in a particular orientation

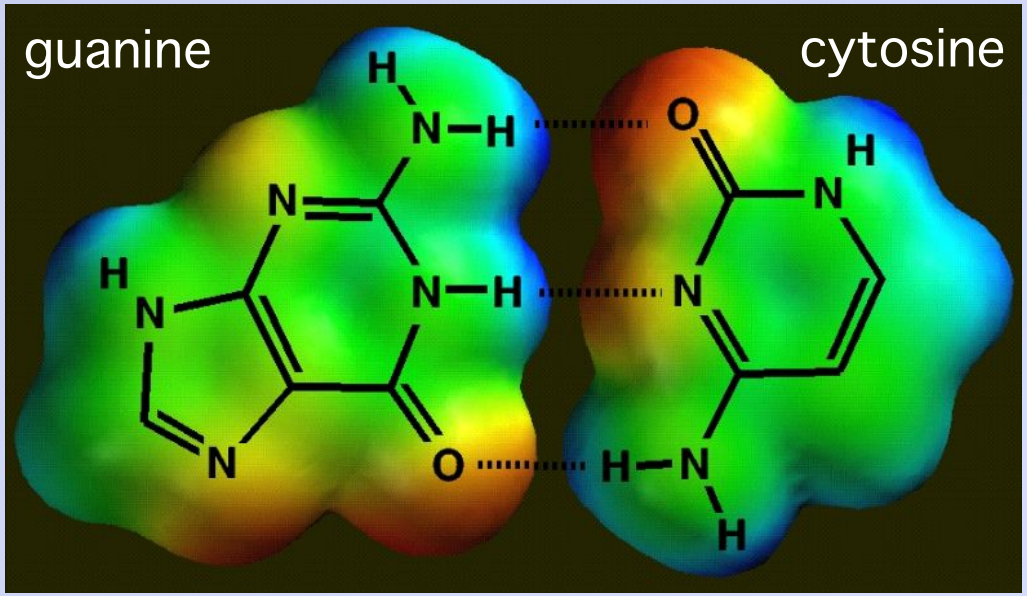
- for example:



- O and N: very electronegative elements (strongly attract electrons) ➔ surrounded by high electron density

- H bonded to O and N, poor of electrons ➔ low electron density

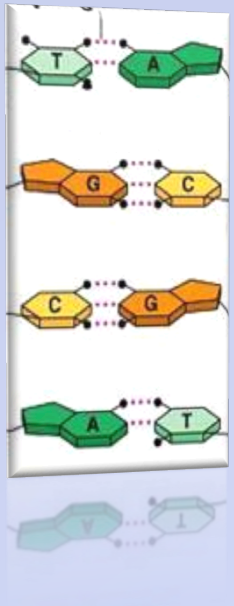
- opposites attract
- areas of high electron density (negative charge) and areas of low electron density (positive charge) attract each other and keep molecules together
- adenine and thymine perfectly fit and so do guanine and cytosine



- let's imagine a chain consisting of these 4 molecules bonded to each other (T = thymine, C = cytosine, A = adenine, G = guanine)

- each molecule will "search" for its complementary partner to pair with it: A and T will "search" each other and so will C and G ➔ these pairings result in high efficient interactions between areas of different electron density

T	T --- A
G	G --- C
C	C --- G
A	A --- T
G	G --- C
T	T --- A
C	C --- G



- globally, the chain will "search" for its complementary chain

- a double chain is obtained formed by two complementary chains kept together by **intermolecular interactions** between areas of different electron density