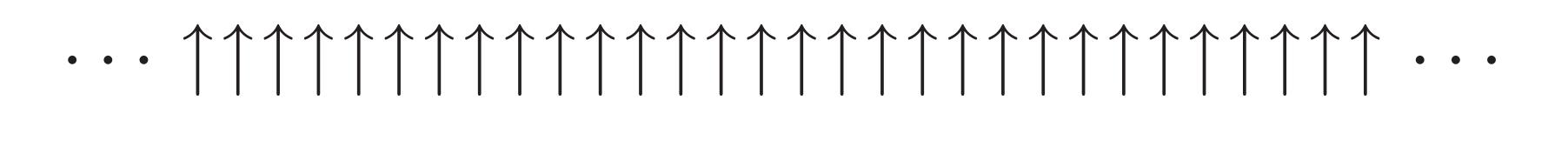
## Energetics and States

Magnetic Field

This state has the lowest energy





But the there are many more states that look like this

At a fixed temperature and magnetic field we are to minimize, F=U-TS

## Magnetization versus magnetic field

