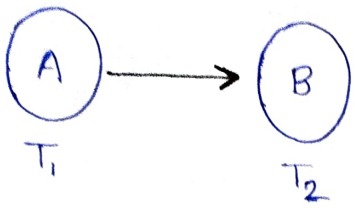
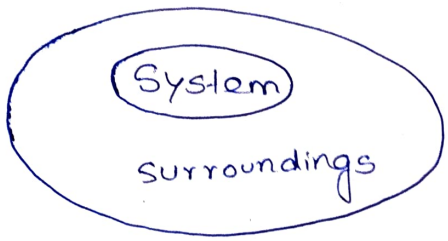
Physical Chemistry : Thermodynamics

heat flow



- Feasibility — only when $T_1 \neq T_2$
- Direction — $T_1 > T_2$
- Extent — $T_1 = T_2$

24/12/21



open system:

mass, energy can exchange

closed system:

energy exchange

Isolated system:

(mass, energy) → can't be exchanged

Thermoflux

Process :—

Isothermal Process

T → constant

Adiabatic Process

$dq = 0$

$dT \neq 0$

Temp must change

Process:

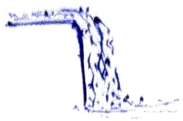
Reversible

Irreversible

driving force → opposing force

$d-o > 0$

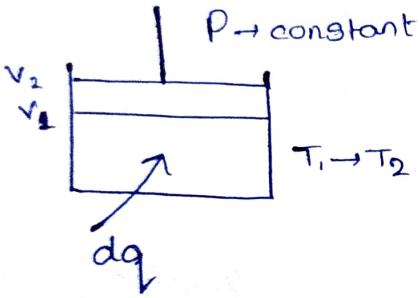
$d-o = \Delta e$ (very small)



First Law of Thermodynamics:

Conservation of Energy

Transforming



~~$w = dt$~~

$w = Pdv$

$dq = du + w$

↓

internal energy

$dq > w$