=) Display device: Displays the information about the processes undergoing in the machine tool such as (speed, depth of cut etc)

=) Machine tool: Machining operation takes place in the machine tool.

Advantage

=) Rate of prod" is high.

=) corrections are done online

=)

Disadvantages

=) Unemployment

=) cost is high.

=) Maintanence is high.

Robotics

=) Robots are devices that are programmed to move parts

→ Reprogrammable

→ Multi functional

→ Manipulator = (comb" of links & joints).

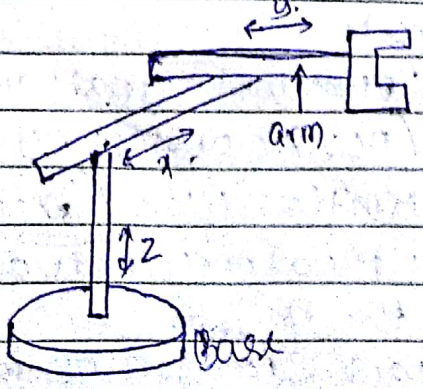
Classification

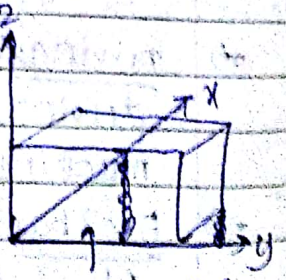
Based on configuration

(1) Cartesian co-ordinate configuration (L-O-O config).

This config consists of one linear prismatic joint (L) and 2 orthogonal prismatic joints (O) and also called as L-O-O config robot

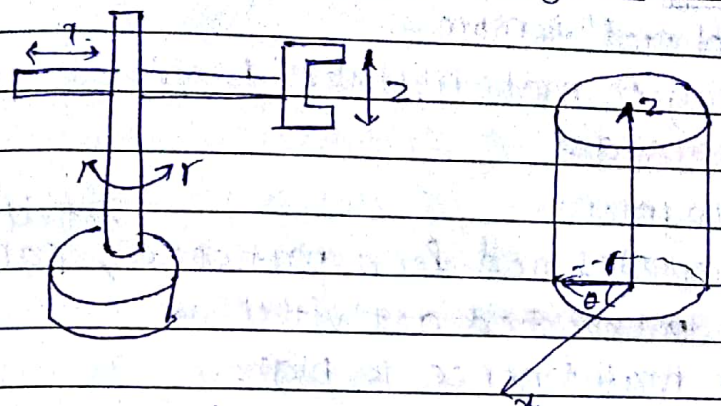
Example - IBM RS-1.





Rectangular work-space

(2) Cylindrical co-ordinate configuration



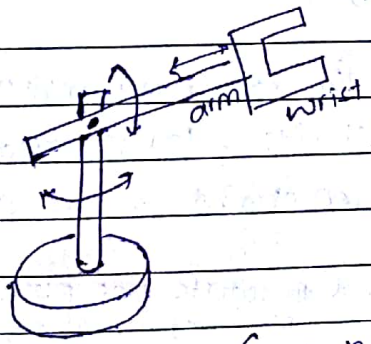
It consists of one twist joint (T), one orthogonal prismatic joint (O) / linear prismatic join (L) & hence is called as T-L-O config.

Ex: IRB A - developed by GM

(3) Polar configuration (T-R-L)

This robot consists of one linear prismatic joint (L), a Rotational joint (R) and a twist joint (T) & hence is also called as T-R-L configuration.

Eg: UNIMATE 2000 series, MAKER 110.



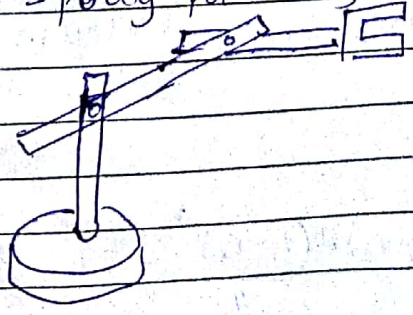
work-volume resembles a partial sphere.

(4) Jointed arm (T-R-R) → Represents human hand ~~industries~~.

Consists of no prismatic joints, but has 2 rotary joints (R) and one twist joint (T) & also called T-R-R config

Ex: SCARA, Milacron T3.

App: Spray painting & welding



~~work-volume represents~~ a 3D crescent

Date:

Advantages

⇒ Rate of prodⁿ is more.

⇒ Tending to make mistakes is reduced.

Disadvantages

⇒ unemployment

⇒ It is apredefined for a particular activities, cannot react with unexpected activities

⇒ Cost of maintanence is high.

Power Transmission