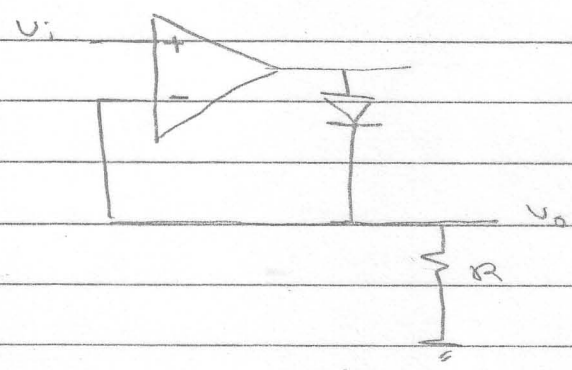


* Super diodes:

- if $V_i = +ve$
- ∴ Diode is on
- ∴ -ve feedback is on



∴ $V_o = V_i$

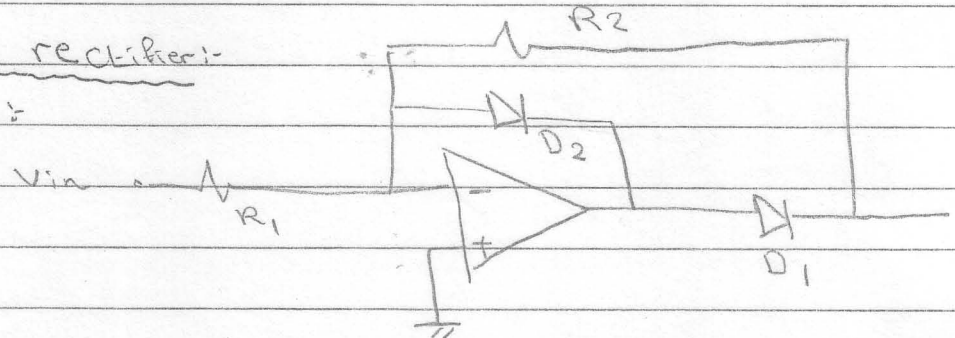
- if $V_i = -ve$
- ∴ Diode is off

∴ $V_{out} = 0$ → i/p at -ve terminal = 0
 ∴ the i/p signal at +ve terminal
 ∴ difference bet. both terminals = the i/p signal

if the i/p signal is very high, it can damage the op-amp

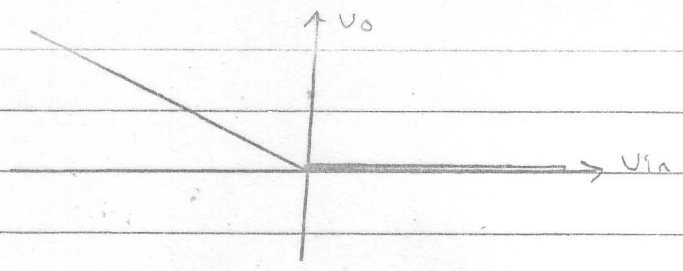
* Half wave rectifier:

- ⇒ if $V_{in} = +ve$
- ∴ D_2 is on
- D_1 is off



∴ $V_{out} = 0$ as D_2 will be s.c ∴ there's no current in R_2

- ⇒ if $V_{in} = -ve$
- ∴ D_2 is off
- D_1 is on



∴ $V_{out} = -\frac{R_2}{R_1} V_{in}$ → at $R_2 = R_1$ → $V_o = -V_{in}$

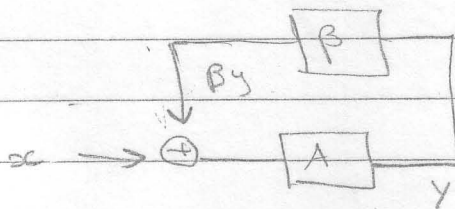
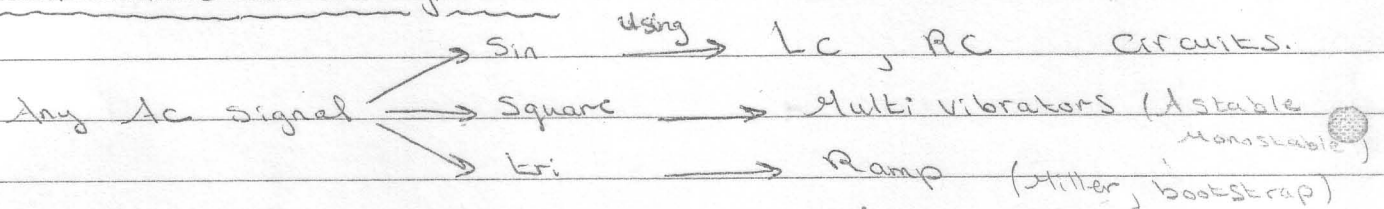
∴ H

* To make full wave rectifier:

∴ Take the previous half wave rectifier & another half wave rectifier but with opposite diodes, let V_p be on both

* Super diodes were made for mvolts signals.

⇒ Generation of AC signals:-



$$Y = A(x + \beta y)$$

$$Y(1 - \beta A) = Ax$$

$$\therefore T.f = \frac{Y}{x} = \frac{A}{1 - \beta A}$$

at $\beta A = 1$ ∴ Gain = ∞

∴ $\frac{Y}{x} = \frac{A}{0} \rightarrow$ value of o/p
 \rightarrow Zero i/p

∴ This circuit has no i/p & has an o/p

Therefore

Using the feedback we can make Wave Generator.