Homework-2

→ Contact 1
→ primitive shape c (i)

→ Primitive shape B (iv)

→ Contact 2
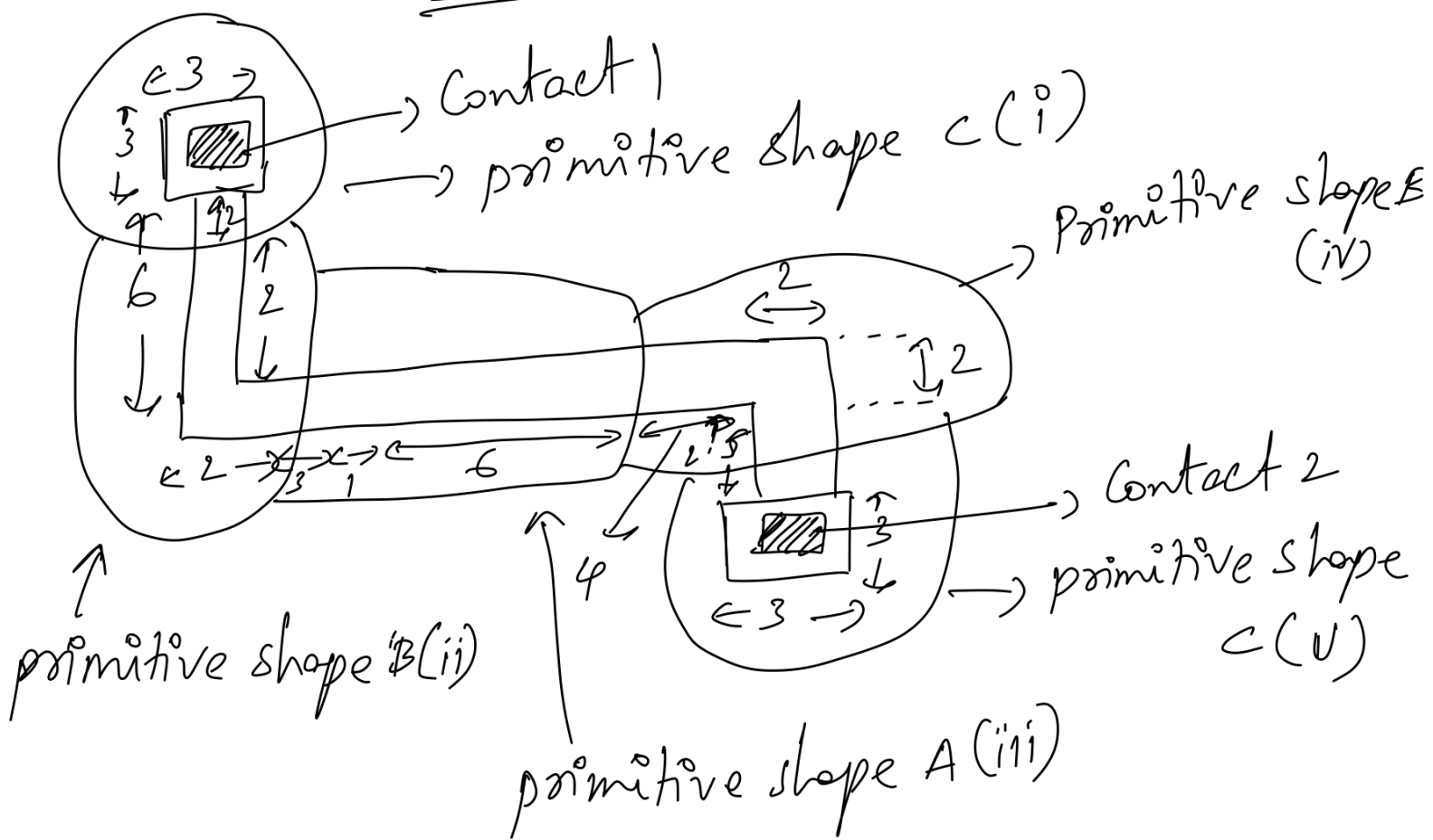→ primitive shape c (v)

primitive shape B(ii)

primitive shape A (iii)

Total resistance = Resistance of contact 1 + Resistance of Contact 2 + Resistance of (i) + Resistance of (ii) + Resistance of (iii) + Resistance of (iv) + Resistance of (v)

For (i), $w_1 = 3$, $w_2 = 2$

$$R(i) = \frac{3}{2} = 1.5 \text{ (ratio)}$$

$$\Rightarrow R(i) = 2.1 \text{ ohm}$$

For (ii), $\omega_1 = 2$, $\omega_2 = 2$

$$R(ii) = \frac{2}{2} = 1 \text{ (ratio)}$$

$$\Rightarrow R(ii) = 2.5 \text{ ohm}$$

For (iii), $\omega = 2$, $L = 10$

$$R(iii) = \frac{10}{2} = 5 \text{ (ratio)}$$

$$\Rightarrow R(iii) = 5 \text{ ohm}$$

For (iv), $\omega_1 = 2$, $\omega_2 = 2$

$$R(iv) = \frac{2}{2} = 1 \text{ (ratio)}$$

$$\Rightarrow R(iv) = 2.5 \text{ ohm}$$

For (v), $\omega_1 = 3$, $\omega_2 = 2$

$$R(v) = \frac{3}{2} = 1.5 \text{ (ratio)}$$

$$\Rightarrow R(v) = 2.1 \text{ ohm}$$

Let contact resistance be $\underline{\underline{CR}}$.

$\Rightarrow$ Total resistance $= CR + 2.1 + 2.5 + 5 + 2.5 + 2.1 + CR$

$$\boxed{\text{Total resistance} = 14.2 + 2CR \text{ ohm}}$$