

U13080335

Complexity Report Phase 2

Structural

- ① Modules: Users (Create, Read, Update, Delete)
- ② Catalogue (Create, Read, Update, Delete)

We have 2 modules that invoke 4 functions each.

$$\begin{aligned} \textcircled{1} \quad S(\text{users}) &= f^2 \text{ out}(\text{users}) \\ &= 4^2 = 16 \end{aligned}$$

$$\begin{aligned} \textcircled{2} \quad S(\text{catalogue}) &= f^2 \text{ out}(\text{catalogue}) \\ &= 4^2 = 16 \end{aligned}$$

$$\text{total} = 16 + 16 = 32$$

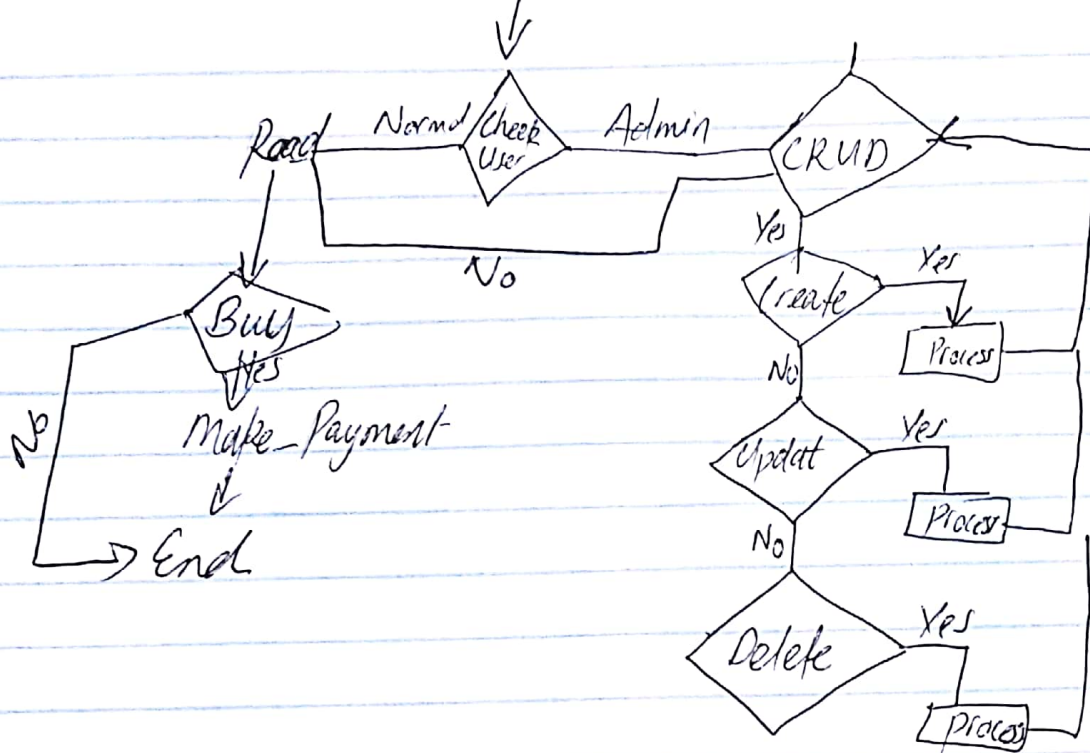
Data

$$D(\text{users}) = \frac{v(i)}{f(\text{out}(i)) + 1} = \frac{5}{4+2} = \frac{5}{6} = 0,83$$

$$D(\text{catalogue}) = \frac{v(i)}{f(\text{out}(i)) + 1} = \frac{5}{4+1} = 1$$

$$\text{total} = 1,83$$

$$\begin{aligned} \bullet \quad \text{System} &= L(i) = S(i) + D(i) \\ &= 32 + 1,83 \\ &= 33,83 \end{aligned}$$



Edges = 16

Nodes = 12

Predicate Nodes = 6

$$\begin{aligned}
 V(G) &= E - N + 2 \\
 &= 16 - 12 + 2 \\
 &= 6
 \end{aligned}$$

OR

$$\begin{aligned}
 V(G) &= P + 1 \\
 &= 6 + 1 \\
 &= 7
 \end{aligned}$$

class Catalogue

$$\begin{aligned}m &= 2(2) + 8(6) + 2(3) + 5 \\&= 4 + 48 + 6 + 5 \\&= 63\end{aligned}$$

$$\begin{aligned}\text{Coupling} &= \frac{1}{m} \\&= \frac{1}{63} \\&= 0,0159\end{aligned}$$

Cohesion

$$\text{No of statements} = 32$$

$$\text{Tightness} = \frac{18}{32} = 0,5625$$

$$\text{Min Coverage} = \frac{15}{32} = 0,46875$$

$$\text{Coverage} = \frac{1}{2} \left(\frac{17}{32} + \frac{19}{32} \right) = 0,5625$$

$$\text{Max Coverage} = \frac{20}{32} = 0,625$$

$$\text{Overlap} = \frac{1}{2} \left(\frac{17}{32} + \frac{12}{32} \right) = 0,453125$$