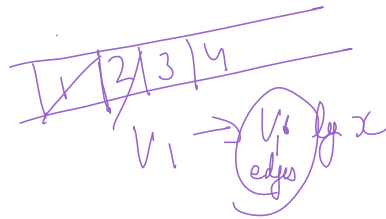
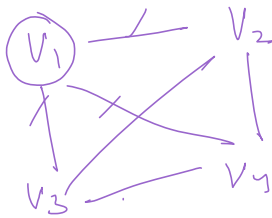
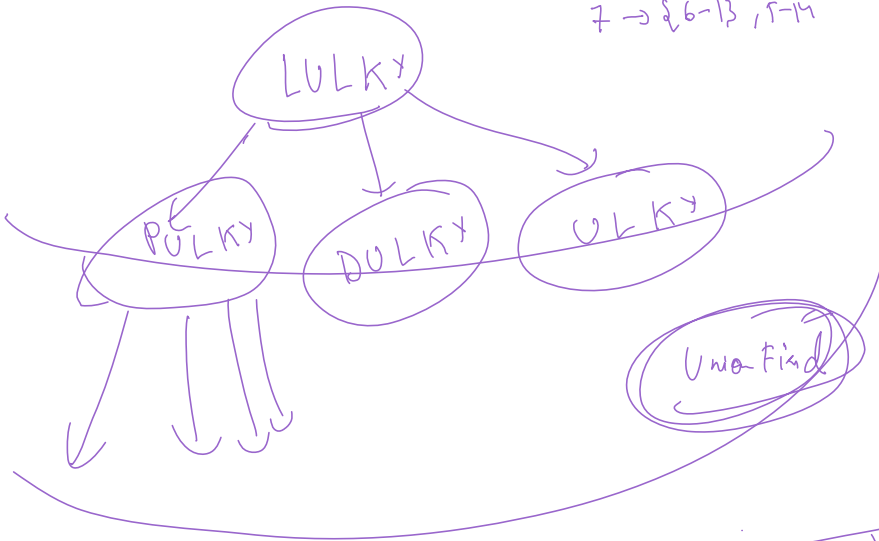


,  $u?$

$\angle V_2$

$1 \rightarrow \{ -10 \}$   
 $-1, 3-2$   
 $-6, 3-3, 5-4$   
 $\{ 6-9, 7-14 \}$   
 $\rightarrow \{ 5-9, 7-13 \}$   
 $7 \rightarrow \{ 6-13, 5-14 \}$

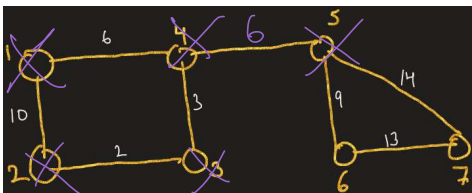


$V_2 \rightarrow V_{ges} \cdot by \cdot sl$

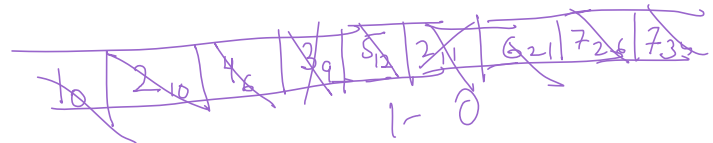
$x \rightarrow V^2$

$Digi \Rightarrow E_{by} V$

$E_{by} x$



$PQ \langle Dij P \rangle$   
 $\hookrightarrow V$   
 $\hookrightarrow Wt$

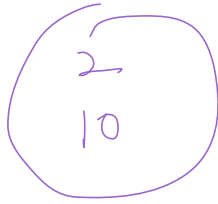


$14$   
 $12$   
 $26$

$1-0$   
 $4-6$   
 $3-9$   
 $2-10$   
 $5-12$   
 $6-21$   
 $7-26$

Unit

7-26



min cost path

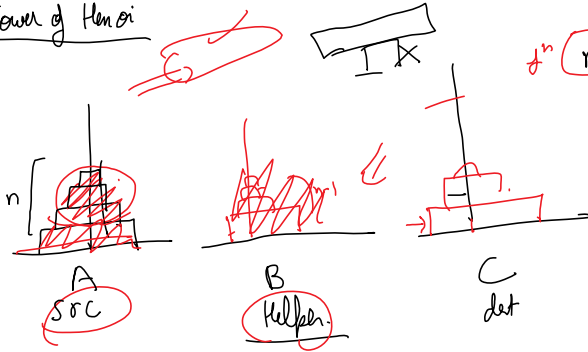
|   |   |   |
|---|---|---|
| 1 | 3 | 1 |
| 1 | 5 | 1 |
| 4 | 2 | 1 |

min

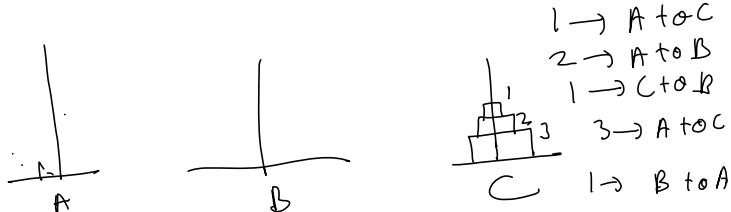
+ grid[r, c]

$sp1 = (r+1, c)$   
 $sp2 = (r, c+1)$   
 $\min(sp1, sp2) + grid[r][c]$

Tower of Hanoi



$n \rightarrow A \text{ to } C ; B$   
 $n, \text{src}, \text{dest}, H$   
 $n \neq 0, H, \text{dest}$   
 $(n \text{th disk}, \text{src}, \text{dest})$   
 $n-1, H, \text{dest}, \text{src}$



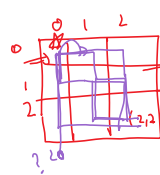
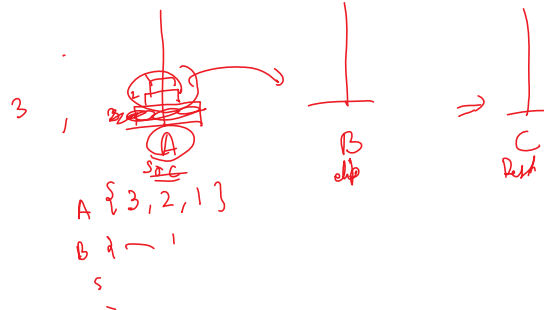
$1 \rightarrow A \text{ to } C$   
 $2 \rightarrow A \text{ to } B$   
 $1 \rightarrow C \text{ to } B$   
 $3 \rightarrow A \text{ to } C$   
 $1 \rightarrow B \text{ to } A$   
 $2, \text{src} = A, \text{dest} = B, C$   
 $(2, A, B, C)$   
 $3 \rightarrow A \text{ to } C$   
 $(2, B, A, C)$   
 $1, \text{src} = A, \text{dest} = C$   
 $(1, A, C, B)$   
 $2 \rightarrow A \text{ to } B$   
 $(1, C, B, A)$   
 $1 \rightarrow B \text{ to } A$   
 $(1, A, B, C)$   
 $2 \rightarrow A \text{ to } B$   
 $(2, A, B, C)$   
 $1 \rightarrow C \text{ to } B$   
 $(1, C, B, A)$   
 $3 \rightarrow A \text{ to } C$   
 $(3, A, B, C)$

Handwritten diagram illustrating the derivation of the transitive property of set membership ( $\in$ ) from the definition of a function ( $f$ ).

The diagram shows a sequence of boxes connected by arrows, representing the logical flow of the proof:

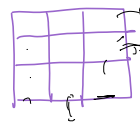
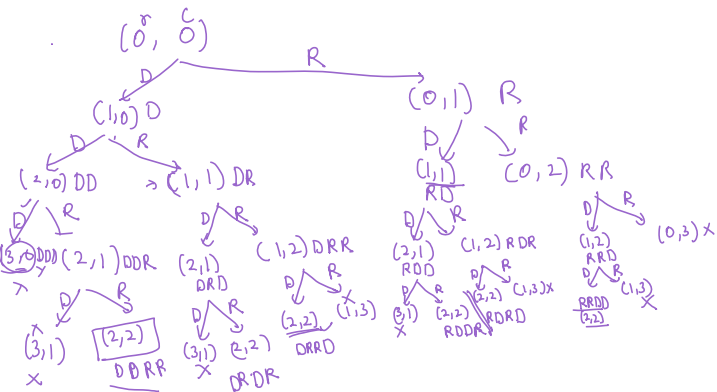
- Box 1 (Top Left):** Contains the expression  $(2, 1, A, B, C)$ . Below it, a bracket groups  $3 \rightarrow A \in C$  and  $(2, 1, B, A)$ .
- Box 2 (Top Middle):** Contains the expression  $(1, A, C, B)$ . Below it, a bracket groups  $3 \rightarrow A \in B$  and  $(1, C, B, A)$ .
- Box 3 (Top Right):** Contains the expression  $(1, A, A, C)$ .
- Box 4 (Bottom Left):** Contains the expression  $2, 1, 5, C = B, A \neq C$ . Below it, a bracket groups  $A$  and  $(1, B, A, C)$ . Below that, a bracket groups  $3 \rightarrow B \in C$  and  $(1, A, B, C, B)$ .
- Box 5 (Bottom Right):** Contains the expression  $1 \rightarrow C \in B$ .

Arrows indicate the logical flow from Box 1 to Box 2, Box 2 to Box 3, Box 1 to Box 4, and Box 4 to Box 5.

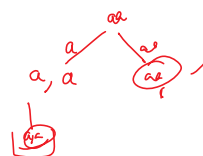
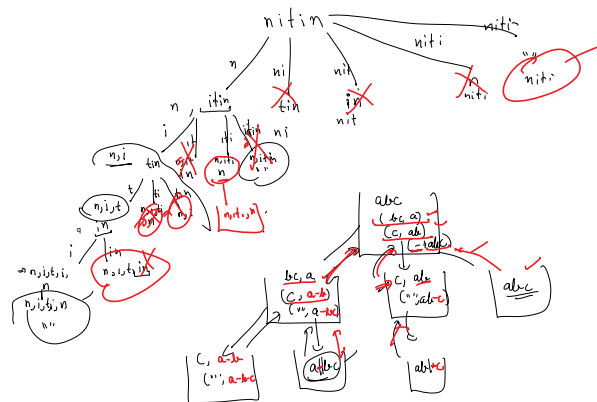


$\rho$

RRDD  
RORD  
RDDR  
WRRD  
ORDR  
DORR

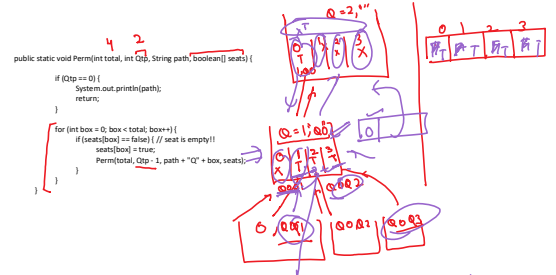
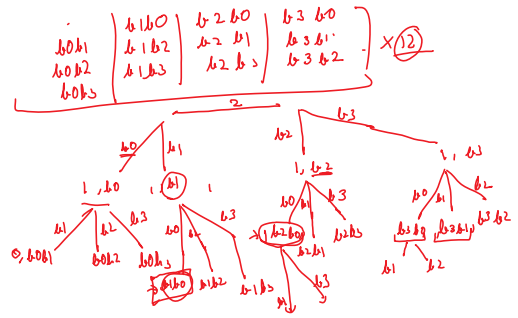


DDRR  
 DRRR  
 DRRD  
 RDDR  
 RDRD  
 RRRD



| $b_0$ | $b_1$ | $b_2$ | $b_3$ |
|-------|-------|-------|-------|
|       |       |       |       |

4 p  
2



```
public static void Perm(int total, int Ctp, String path, boolean[] seats) {
    if (Ctp == 0) {
        System.out.println(path);
        return;
    }
    for (int box = 0; box < total; box++) {
        if (seats[box] == false) { // seat is empty!!
            seats[box] = true;
            Perm(total, Ctp - 1, path + "C" + box, seats);
        }
    }
}
```

