

## PROCESS ENACTMENT EVENT LOGS DATASET

**L:**

```
case 1 : task A
case 2 : task A
case 3 : task A
case 3 : task B
case 1 : task B
case 1 : task C
case 2 : task C
case 4 : task A
case 2 : task B
case 2 : task D
case 5 : task E
case 4 : task C
case 1 : task D
case 3 : task C
case 3 : task D
case 4 : task B
case 5 : task F
case 4 : task D
```

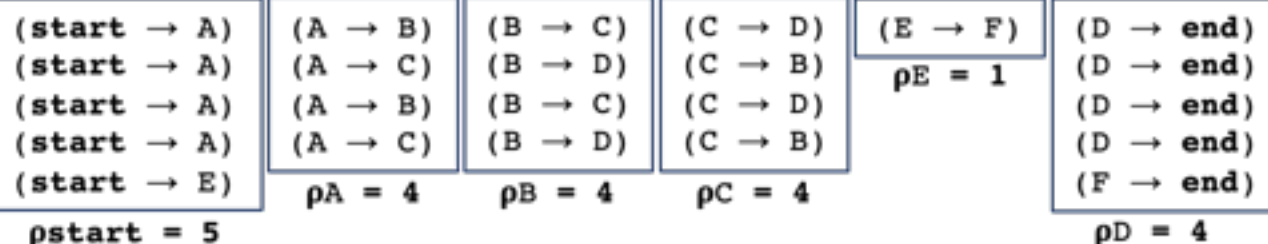
## PREPROCESSING: TEMPORAL WORKCASES

```
temporal_workcase1: A → B → C → D
temporal_workcase2: A → C → B → D
temporal_workcase3: A → B → C → D
temporal_workcase4: A → C → B → D
temporal_workcase5: E → F
```

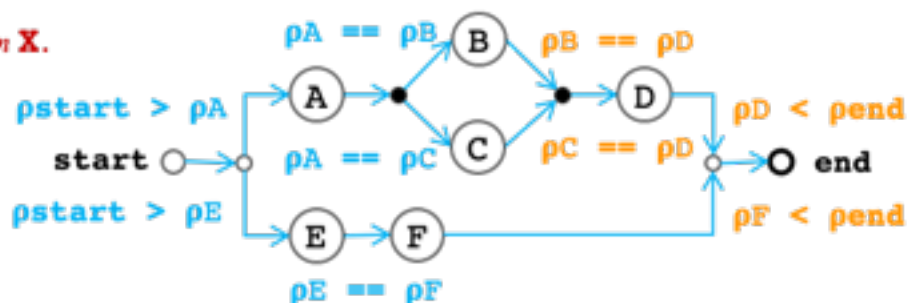
## STEP 1: GROUPS OF TEMPORALLY ORDERED ADJACENT-ACTIVITY PAIRS

```
temporal_workcase1: (A → B) (B → C) (C → D)
temporal_workcase2: (A → C) (C → B) (B → D)
temporal_workcase3: (A → B) (B → C) (C → D)
temporal_workcase4: (A → C) (C → B) (B → D)
temporal_workcase5: (E → F)
```

## STEP 2: ADJACENT-ACTIVITY SETS & WEIGHTED PROCESS PATTERN GRAPH



## STEP 3: STRUCTURED INFORMATION CONTROL NET



The Principle of  
Gateway Type Decision-Makings  
(OPEN-gateway)

- OR:  $\rho_{Parent} > \rho_{Child}$
- AND:  $\rho_{Parent} == \rho_{Child}$
- LOOP:  $\rho_{Parent} < \rho_{Child}$

The Principle of  
Gateway Type Decision-Makings  
(CLOSE-gateway)

- OR:  $\rho_{Parent} < \rho_{Child}$
- AND:  $\rho_{Parent} == \rho_{Child}$
- LOOP:  $\rho_{Parent} > \rho_{Child}$

THE DISCOVERED STRUCTURED  
INFORMATION CONTROL NET PROCESS MODEL