

# Original Program

```

...
Loop:
  INS A
  INS B
  INS C
  goto Loop
...

```

Process 1    Process 2

```

...
Loop:
  INS A
  INS B
  INS C
  goto Loop
...

```

```

...
Loop:
  INS A
  INS B
  INS C
  goto Loop
...

```

(a)

## Process 1

```

INS  $\bar{A}_1$ 
INS  $\bar{B}_1$ 
INS  $\bar{A}_2$ 
INS  $\bar{B}_2$ 
INS  $\bar{A}_3$ 
INS  $\bar{B}_3$ 
INS  $\bar{A}_4$ 
INS  $\bar{B}_4$ 

```

## Process 2

```

INS  $A_1$ 
INS  $B_1$ 
INS  $C_1$ 
INS  $A_2$ 
INS  $B_2$ 
INS  $C_2$ 
INS  $A_3$ 
INS  $B_3$ 
INS  $C_3$ 
INS  $A_4$ 
INS  $B_4$ 
INS  $C_4$ 

```

DepD: Data dependence

DepS: Dependency due to static intra-process scheduling

DepF: Dependency due to FIFO size limit

(b)

## Process 1

```

INS  $\bar{A}_1$ 
INS  $\bar{A}_2$ 
INS  $\bar{A}_3$ 
INS  $\bar{A}_4$ 
INS  $\bar{B}_1$ 
INS  $\bar{B}_2$ 
INS  $\bar{B}_3$ 
INS  $\bar{B}_4$ 

```

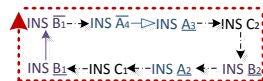
## Process 2

```

INS  $A_1$ 
INS  $B_1$ 
INS  $C_1$ 
INS  $A_2$ 
INS  $B_2$ 
INS  $C_2$ 
INS  $A_3$ 
INS  $B_3$ 
INS  $C_3$ 
INS  $A_4$ 
INS  $B_4$ 
INS  $C_4$ 

```

Cycle of dependence



(c)