F. Flow Shop

Tuesday, November 1, 2016 9:28 AM

n : swathers

m : stages

workers at a given stage can only work on one swather at a time

start with first swather

must complete stage i-1 to begin stage i

⇓

start of stage j for swather i = MAX(swather i-1 stage j finish time, swather i stage j-1 finish time)

workers must be idle ; previous must finish

swather must be ready for stage

Ex

2 3

1 4 3

3 2 1

Time Array initial

1	2	3
3	2	1

Calculate cumulative time for swather 1

1	3	6
3	2	1

Calculate 1st stage for swather 2

time 1 . . . - 4

for swather 1 to complete stage 1 → 1 + 3 = 4

1	3	6
4	2	1

Calculate remaining stages for swather 2

stage 2

time for swather 1 to complete stage 2

1	3	6
4	6 ~~4~~	1

time for swather 2 to complete stage 1

MAX (3, 4) = 4

2 + 4 = 6

stage 3

1	3	6
4	6	7

Max (6, 6) = 6

6 + 1 = 7

finishes times

1	3	6
4	6	7

swather 1 : 6

11 2 : 7