

|   |   |   |   |
|---|---|---|---|
| A | 3 | G | 5 |
| B | 4 | H | 2 |
| C | 7 | I | 1 |
| D | 4 | J | 6 |

|   |   |   |   |
|---|---|---|---|
| E | 2 | K | 3 |
|---|---|---|---|

|       |      |
|-------|------|
| F     | 1    |
| <hr/> |      |
| 21    | + 17 |

$$\sum p_i = 38$$

① Midterm Fall 2017

Q. Work?

Sol<sup>n</sup> Sum of all Processing Times.

Q. Width?

Sol<sup>n</sup> Max number of tasks without  
Direct dependency

Multiple sets of Tasks Ex. 1- A, B, C

2. D, E

3. F, G, H

4. F, G, I

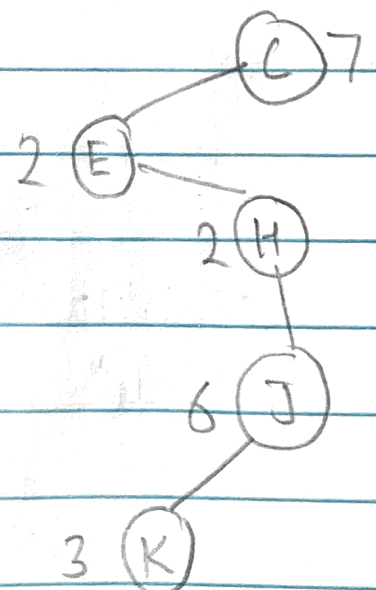
Max Width = 3

Q. Critical Chain and it's length.

Sol<sup>n</sup> Longest chain of task with  
processing time is.

C → E → H → J → K

$$CP = 20$$



## ②. Strassen

Q. work?

Solu<sup>n</sup>:

$$\sum p_i = 56$$

|                 |   |                 |   |
|-----------------|---|-----------------|---|
| A               | 0 | B               |   |
| A <sub>11</sub> | 0 | B <sub>11</sub> | 0 |
| A <sub>12</sub> | 0 | B <sub>12</sub> | 0 |
| A <sub>21</sub> | 0 | B <sub>21</sub> | 0 |
| A <sub>22</sub> | 0 | B <sub>22</sub> | 0 |
| m <sub>1</sub>  | 1 | N <sub>1</sub>  | 1 |
| m <sub>2</sub>  | 1 | N <sub>2</sub>  | 1 |
| m <sub>3</sub>  | 1 | N <sub>3</sub>  | 1 |
| m <sub>4</sub>  | 1 | N <sub>4</sub>  | 1 |
| m <sub>5</sub>  | 1 | N <sub>5</sub>  | 1 |
| m <sub>6</sub>  | 1 | N <sub>6</sub>  | 1 |
| m <sub>7</sub>  | 1 | N <sub>7</sub>  | 1 |
| P <sub>1</sub>  | 5 | T <sub>1</sub>  | 1 |
| P <sub>2</sub>  | 5 | T <sub>2</sub>  | 1 |
| P <sub>3</sub>  | 5 | T <sub>3</sub>  | 1 |
| P <sub>4</sub>  | 5 | C <sub>11</sub> | 1 |
| P <sub>5</sub>  | 5 | C <sub>12</sub> | 1 |
| P <sub>6</sub>  | 5 | C <sub>21</sub> | 1 |
| P <sub>7</sub>  | 5 | C <sub>22</sub> | 1 |
|                 |   | C               | 0 |
|                 |   | 42 + 14         |   |

Q. Width?

Solu<sup>n</sup>:

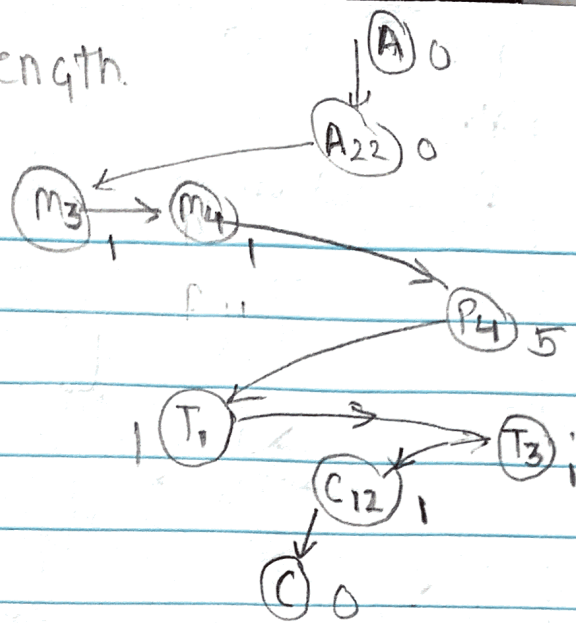
few of m and N family of tasks can be executed without and dependencies on each other. Therefore.

m<sub>1</sub>, m<sub>2</sub>, m<sub>3</sub>, m<sub>5</sub>, m<sub>7</sub>, N<sub>1</sub>, N<sub>2</sub>, N<sub>3</sub>, N<sub>5</sub>, N<sub>6</sub>

Width = 10

Q Critical chain, its length.

Sol<sup>n</sup>.



$$CP = 10$$

### 3 Independent Task 1

Q Work?

A - 1    D - 1    G - 3

Sol<sup>n</sup>

B - 1    E - 1

C - 1    F - 1

$$3 + 3 + 3$$

$$\sum p_i = 9$$

Q width?

Sol<sup>n</sup>

$$\text{Width} = 7$$

Q Critical chain and it's length

Sol<sup>n</sup>

(G)

$$CP = 3$$

### 4 Independent Task 2

Q Work?

A - 3    C - 4    E - 5    G - 6

Sol<sup>n</sup>

B - 4    D - 5    F - 6

$$\sum p_i = 33$$

Width? Sol<sup>n</sup> = width = 7

Critical chain? Either (F) or (G) with CP = 6