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16L-4067

Question 1: part (a)

name	count	weight	product
user inputs	3	3(S)	9
user outputs	2	7(C)	14
user inquiries	2	6(A)	12
files	1	10(A)	10
external interfaces	4	7(A)	28

total count = 73

part (b)

$$SLOC = 50, K SLOC = \frac{50}{1000} = 0.05$$

$$\begin{aligned} \text{size} &= FP \times K SLOC \\ &= 73 \times 0.05 = 3.65 \end{aligned}$$

$$\begin{aligned} \text{scale factor} &= 0.91 + 0.01(3+4+3+1+3) \\ &= 0.91 + 0.01(14) \\ &= 1.05 \end{aligned}$$

$$\text{Person's month} = A \times \text{size}^{sf} \times [cmi]$$

~~Person's month = 2.94 x 3.65^{1.05} x 1.3 x 1 x 1 x 1 x 1~~

$$\text{person's month} = 19.6459$$

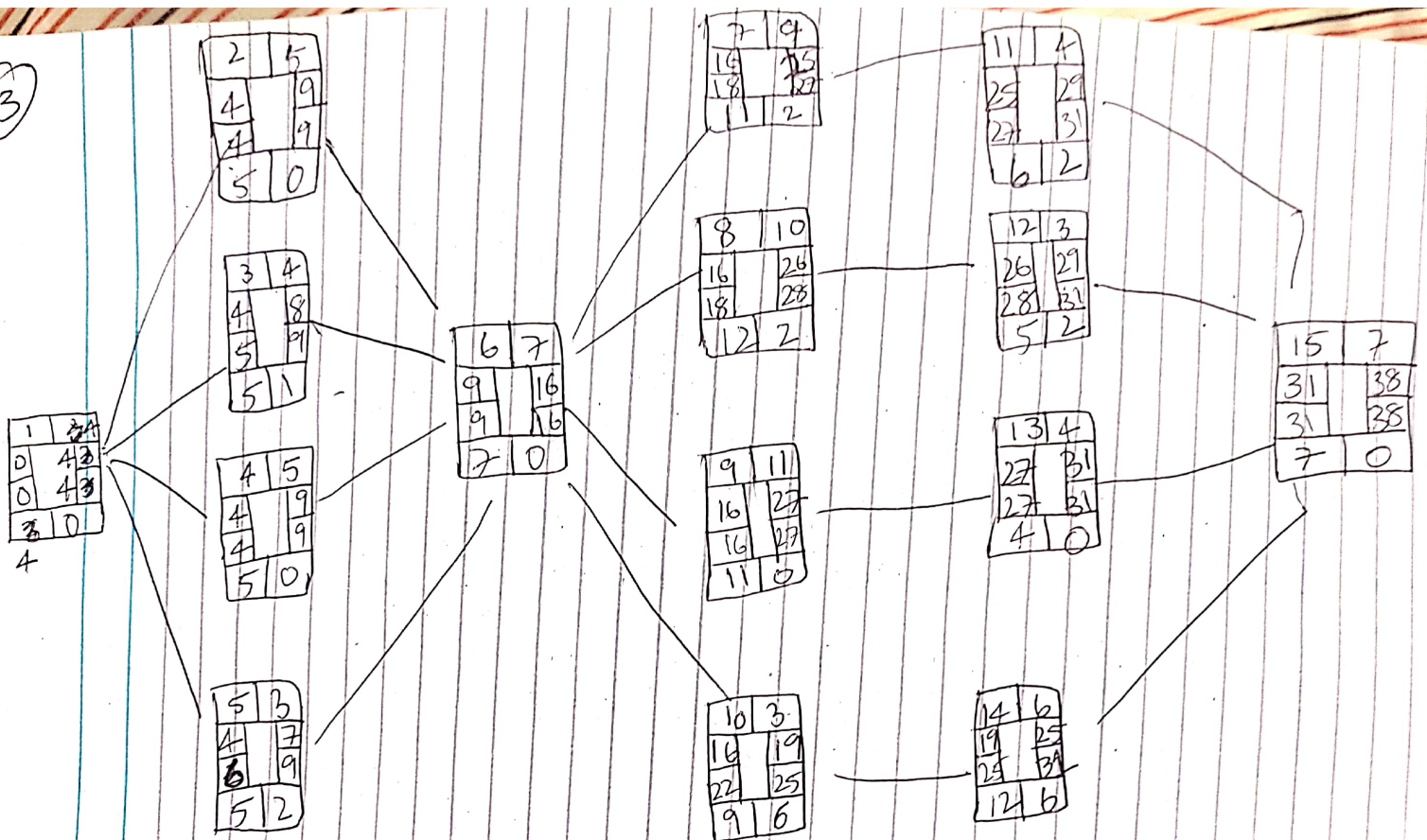
(2)

Question 2:

Free Int.
Float Float

#	description	precedents	optimist	likely	pes.	te	Free Float	Int. Float
1	specify overall system		2	3 4	5 6	3 4	0	0
2	specify module A	1	3	5	7	5	0	0
3	specify module B	1	2	4	6	4	1	0
4	" " C	1	3	5	7	5	0	0
5	" " D	1	1	3	5	3	2	0
6	check specs	2,3,4,5	5	7	9	7	0	0
7	design module A	6	7	9	11	9	0	2
8	" " B	6	8	10	12	10	2 0	2
9	" " C	6	9	11	13	11	0	0
10	" " D	6	1	3	5	3	0	6
11	code module A	7	2	4	6	4	2	0
12	" " B	8	1	3	5	3	2	0
13	" " C	9	2	4	6	4	0	0
14	" " D	10	4	6	8	6	6	0
15	sys integration	11,12,13,14	5	7	9	7	0	0

3



Critical path = ~~1 → 4 → 2~~
 1 → 4, 2 → 6 → 9 → 13 → 15

(4)

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Question 3:

(b. part)

Shorten the critical path:

- * Employees should get overtime work.
- * More employees should be added to the project.
- * Reduce the scope of the project.
- * Experienced and educated staff should be added to the crit. path.
- * add more resources to project.

Re evaluate precedence requirements:

- * Start the activities before precedence completion.
- * Sub divide activities as desperate measures, testing of software can be reduced.
- * quality (overall) of software can be reduced.
- * exp. planning of exception

(a part)

$$BCWS = 10 \times 5 \times 5 \times 50 = 12,500$$

$$BCWP = 10 \times 5 \times 5 \times 40 = 10,000$$

$$ACWP = 10,000$$

$$SV = -2500$$

$$CV = 0$$

$$SPI = BCWP / BCWS = 10000 / 12500 = 0.8$$

$$CPI = 1$$