Assignment #3

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Section:

E-14

Assignment # 3 (Deadline 11/01/2026-11:59pm)

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Note:

1. Assignment should be hand written and converted to pdf or word before submitting it on horizon assignment 3 folder.
2. Typed assignment will get -2.5 marks as penalty.
3. Assignment submitted after deadline but within 24 hours will get -2.5 marks as penalty.
4. Assignment submitted after 24 hours but before 48 hours will get -5 marks as penalty.
5. Assignment submitted after 48 hours will get 00 marks.
6. Plagiarized assignments will get 00 marks.

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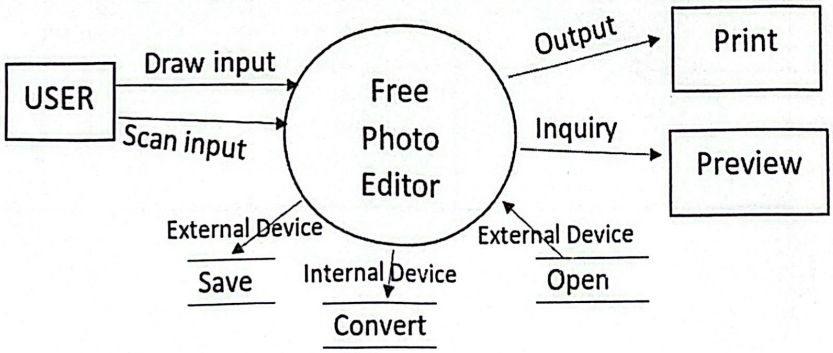
Calculate for both the questions:

a) FP (You have to show all the calculations including the table to calculate the count total and the 14 questions and their answers.)
b) LOC based on heuristics that 01 FP equals 76 LOC (lines of code).
c) No of persons-month effort, based on heuristics that 9 FPs are produced for each person-month.

1- Suppose a software (Free Online Pdf Converter) is estimated as having average weighting factor. The software has EIs = 4, EOs=3, EQs=4, ILFs=5, EIFs=2. Answer all the 14 questions appropriately for obtaining ∑Fi. Also draw Data Flow Diagram for Q1 (like Q2)

2- Suppose a software (Free photo editor) is estimated as having complex weighting factor. Total count of 14 questions is : 58



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Question no 1:-

1) Identifying Component:

Component	Count
EL	4
EO	3
EQ	4
ILF	5
EIF	2

2) Average weighting Factor

Component	Count	Avg Weight	Total
EL	4	4	4x4 = 16
EO	3	5	3x5 = 15
EQ	4	4	4x4 = 16
ILF	5	10	5x10 = 50
EIF	2	7	2x7 = 14
			111

3- Genral System Characteristics (Fi)

14 Questions of ΣFi

#	14 - Questions	Fi
1	Data Communications	3
2	Distributed Processing	3
3	Perfomance	3
4	Heavily Used Configration	3
5	Transaction rate	3
6	Online data Entry	3
7	End user Efficency	3
8	Online Update	3
9	Complex Processing	3
10	Reusability	3
11	Instalation ease	3
12	Operational ease	3
13	Multiple sites	3
14	Facilitate change	3

Tatal ΣFi

$\Sigma Fi = 42$

$= 42$

4- Value Adjustment Factor (VAF)

$$VAF = 0.65 + (0.01 \times 42)$$
$$= 0.65 \times 0.42$$
$$VAF = 1.07$$

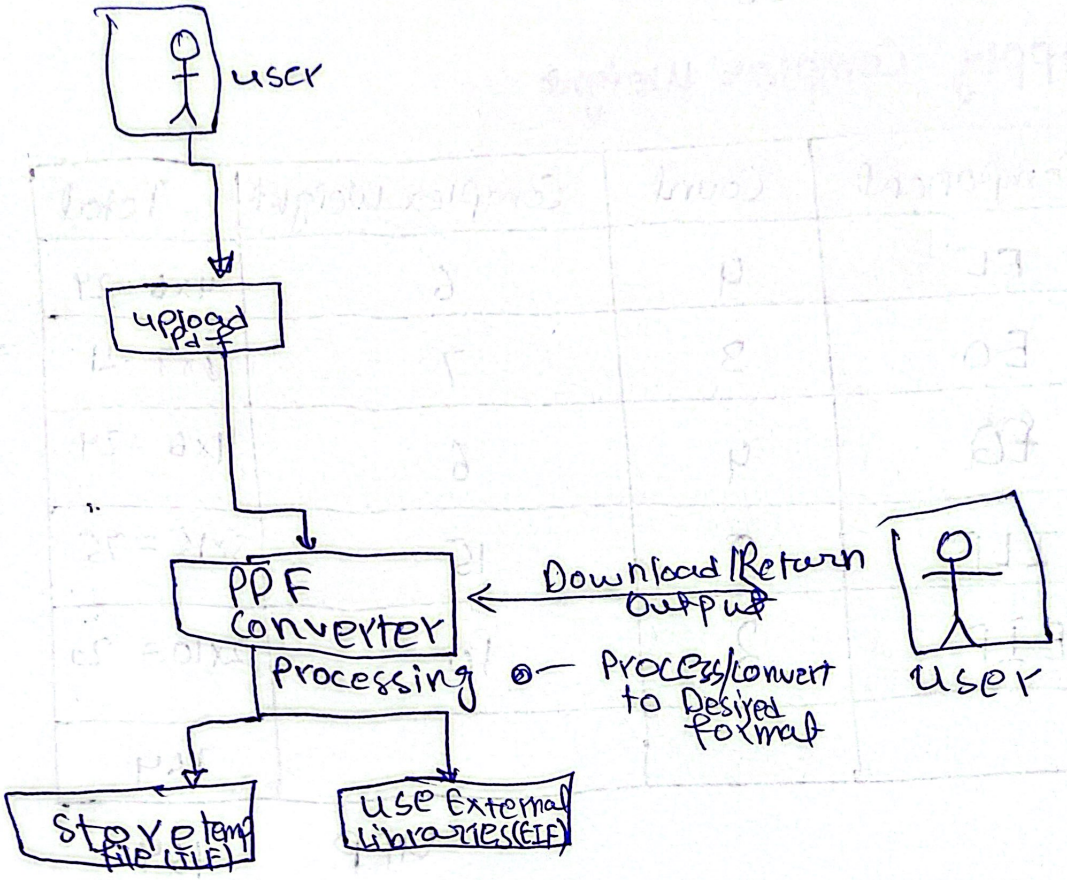
$$FP = UFP \times CAF$$
$$= 111 \times 1.07$$
$$= 118.77 \approx 119 FP$$

5) Estimate LOC

$$LOC = FP \times 76$$
$$= 119 \times 76$$
$$= 9044 \text{ LOC}$$

6) Effort (Person-Months)

$$9FP = 1PM$$
$$Effort = FP/9$$
$$= 119/9$$
$$= 13.2 \text{ PersonsMonth}$$


user
upload pdf
PDF converter
Download/Return output
user
Processing
Process/convert to Desired format
Store temp file (TLF)
use External Libraries(EIF)

Question #2:

$\Sigma Fi = 58$

1- Apply Complex Weight

Component	Count	Complex Weight	Total
EL	4	6	4x6 = 24
EO	3	7	3x7 = 21
EQ	4	6	4x6 = 24
ILF	5	15	5x15 = 75
EIF	2	10	2x10 = 20
			164

UFP 164

2- Compute CAF

CAF = 0.65 + 0.01 x 58

= 0.65 + 0.58

CAF = 1.23

3- Adjusted FP

FP = UFP x CAF

= 164 x 1.23

201.72 ≈ 202 FP

4- LOC Estimating

LOC = 202 x 76

= 15352 LOC

5 Effort Estimat

Effort = FP/9

= 2249

= 22.4

Person-Mon