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BATCH: EBOG PROJECT TITLE: 'BURNITAPP' 19/04/2020

SE Lab-8 Constructive Cost Model (COCOMO)

⇒ Complexity/Mode of Project:- Semi-detached Mode'
(Intermediate b/w Organic and Embedded)

⇒ Lines of Code = 24,000 (approx.)
*estimated based on similar projects (already developed)

⇒ KLOC (Kilo Source Lines of Code) = 24000/1000 = 24.

Calculating the following based on COCOMO Model (in semi-detached mode)

⇒ **Effort** = $a_1 * (KLOC)^{a_2}$ (person-months)

$a_1 = 3.0$ (in semi-detached model)

$a_2 = 1.12$.

→ substituting the values:- $3.0(24)^{1.12} = 3.0 \times 35.1428\ldots$

$= \boxed{105.42845\ldots \text{ PM}}$ (person/month)

⇒ **Productivity** = KLOC/Effort (KLOC/PM)

$= 24/105.42845\ldots$

$= \boxed{0.22764\ldots \text{ KLOC/PM}}$

⇒ **Development Time** (T_{dev}) = $b_1 * (effort)^{b_2}$ (months)

$b_1 = 2.5$ (in semi-detached model)

$b_2 = 0.35$

→ substituting the values:- $2.5(105.42\ldots)^{0.35} = 2.5 \times 5.1054\ldots$

$= \boxed{12.7636608\ldots \text{ months}}$

→ 13 months (at most) needed
(1 year 1 month).

⇒ **Staff** = Effort / T_{dev} (persons)

$= 105.428\ldots / 12.763\ldots$

$= \boxed{8.260048\ldots \text{ persons}}$

→ 9 persons (at most) needed

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Double-checking the Calculations at http://www.edtechnology.in/cocomo/:

COCOMO calculator

Enter estimated kilo line of codes : 24

calculate

Effort = a*loc^b

Duration = c*effort^d

Staffing = effort/duration

	Organic	Semi-detached	Embedded
Variable A	2.4	3	3.6
Variable B	1.05	1.12	1.2
Variable C	2.5	2.5	2.5
Variable D	0.38	0.35	0.32
KLOC	24	24	24
Effort (In Person / Month)	67.52009513112468	105.42845578536853	163.13832195175902
Duration (In months)	12.391519537556338	12.763660813822613	12.76315153950939
Staffing (Recommended)	5.44889550684112	8.260048376653279	12.781977981437489

Writing a Code to Calculate the Quantities: